NATIONAL ANCIENT MONUMENTS YEAR BOOK

ILLUSTRATED

FOREWORD
BY THE RIGHT HON. STANLEY BALDWIN, P.C., M.P.,
Prime Minister

INTRODUCTION
BY THE RIGHT HON. THE EARL OF CRAWFORD AND BALCARRES, K.T., P.C., D.C.L., LL.D., F.R.S.,
President of the Society of Antiquaries

EDITED BY
JOHN SWARBRICK, F.R.I.B.A.

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THE FOUNTAIN, IN THE GREAT COURT, TRINITY COLLEGE, CAMBRIDGE.

The Fountain is a beautiful example of Early Renaissance work, erected by Dr. Thomas Nevile (Master) in 1602, and rebuilt in 1716. King Edward's Gate may be seen in the background.

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Extract from the Will of the late Lord Curzon of Kedleston

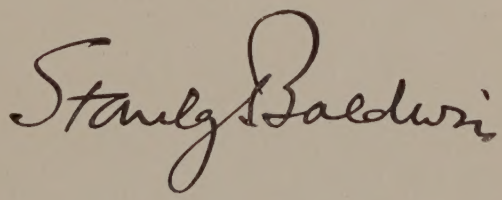
"Convinced that beautiful and ancient buildings which recall the life and customs of the past are not only a historical document of supreme value, but are a part of the spiritual and æsthetic heritage of a nation, imbuing it with reverence and educating its taste, I bequeath for the benefit of the nation certain properties which I have acquired for the express purpose of preserving the historic buildings upon them."

MANCHESTER:
H. RAWSON AND CO., PRINTERS, NEW BROWN STREET

FOREWORD

by the Right Hon. Stanley Baldwin, M.P., P.C., Prime Minister

AS one who has always taken a deep interest in our ancient buildings, and particularly so in my own native county of Worcester, may I commend the National Ancient Monuments Year Book to all those who are interested in the preservation of the ancient monuments and historic buildings of Great Britain and Ireland. A work that contains information on this object will, I think, be very helpful and instructive to all concerned.



PREFACE

ALTHOUGH unforeseen and unavoidable delays have caused the publication of the first issue of this Year Book to be deferred longer than was originally contemplated, it is improbable that delays for similar reasons will occur in the future. It should, however, be stated that it is not intended to publish future issues at the commencement of the respective years. On the other hand, it has been thought preferable to defer publication each year until the Winter has passed and the pleasures of Spring and early Summer are at hand. In this way, an endeavour will be made to bring the matter as far as possible up to the date when the world at large begins once again to explore the countryside and to wander in search of the ancient monuments and historic buildings with which the country, fortunately, still abounds.

A desire has been expressed that a well-illustrated periodical should be published, relating to ancient monuments, historic buildings, and the various steps necessary to secure their protection and preservation. Such a publication would, doubtless, do much to arouse an increased interest in our priceless heritage of ancient buildings, works of art and craftsmanship, and might do much to secure its conservation intact, without disfigurement, for the benefit of our own countrymen and those beyond the seas who regard with veneration our monumental relics of the past. The cost of such a periodical would probably not exceed 2s. 6d. per copy. In all probability, it would not be printed more frequently than a few times in the first year.

It is thought that a publication of this kind might be additionally useful as a means of directing attention to ancient buildings in danger of demolition. In many cases, those who are responsible for acts of vandalism are so absolutely unaware of the significance or artistic value of the structures which they contemplate removing that a reasoned and impartial opinion, obtained by a disinterested organ, far removed from the local area of debate, might quite possibly have the effect of convincing them, in a way that neighbours could not, that their action would be ill-advised and contrary to the best interests of all concerned.

A magazine dealing with such subjects might also be a medium of assistance to those desiring to explore and study the ancient monuments of this country or wishful to participate in organised tours. It might also be helpful to those seeking to raise funds for the reparation of old buildings or for the exploration of ancient sites, by publishing reports of work accomplished, from time to time, and so arousing the interest of the public.

All readers who would like to become regular subscribers to a periodical of this kind are desired to send their names and addresses to me direct. I should also be pleased to receive matter suitable for publication in the Year Book, and suggestions regarding the extension or improvement of it would be much appreciated. A considerable amount of additional matter has already been compiled, and in all probability much, if not all, of this will be included in subsequent issues.

JOHN SWARBRICK,
Editor.

30, St. Ann Street,
Manchester.

MEMORANDUM

COMMUNICATIONS respecting this Year Book or the matter, etc., contained in it should be forwarded to the Editor.

LETTERS RELATING TO ADVERTISEMENTS, ETC., should be addressed to the N.A.M.Y.B. Advertisement Secretary, c/o the Editor.

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CONTENTS

	Page
Extract from the Will of the late Lord Curzon of Kedleston	2
Foreword by the Right Hon. STANLEY BALDWIN, M.P., P.C., Prime Minister	3
Preface	4
Contents	5
List of Illustrations	9

Part I

Matter of topical interest relating to Ancient Monuments, Works of Art and Craftsmanship

Introduction by the Right Honourable the EARL OF CRAWFORD AND BALCARRES, K.T., P.C., D.C.L., LL.D., F.R.S., F.R.I.B.A., President of the Society of Antiquaries	11
The Appeal of the Right Hon. Stanley Baldwin, M.P., on behalf of the Fund of the Royal Society of Arts for the Preservation of Ancient Cottages, with a note by Thomas Hardy, O.M.	15
The Preservation of Ancient Cottages, by Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., Director of Works, H.M. Office of Works ...	23
The Memorial to the Prime Minister regarding Waterloo Bridge ...	46
The Royal Fine Art Commission	49
The Royal Commission for Scotland to enquire into questions of public amenity, etc.	49
The National Trust	50
The Central and Diocesan Advisory Committee	52
The Society for the Protection of Ancient Buildings	53
The Ancient Monuments Society	54
The Council for the Preservation of Rural England	56

Part II

Particulars relating to Ancient Monuments in England, Wales, Scotland and Ireland, protected by legislation, and to the work of the Ancient Monuments Boards, the Royal Commissions on Ancient and Historic Monuments and Constructions, etc.

Lists of Societies and organisations in all parts of the United Kingdom and Ireland, interested in the study and conservation of Ancient Monuments and Historic Buildings

CONTENTS: Part II—*continued.*

Page

H.M. Office of Works, etc., Department of Ancient Monuments and Historic Buildings, the Ancient Monuments Boards for England, Wales and Scotland 63

List of Buildings in England and Wales transferred to the control of H.M. Commissioners of Works, under the provisions of the Ancient Monuments (Consolidation) Act, 1913. Compiled by Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., Director of Works, H.M. Office of Works 65

List of Buildings in Scotland transferred to the control of H.M. Commissioners of Works, under the provisions of the Ancient Monuments (Consolidation) Act, 1913 67

List of the more important historic Crown Buildings administered and maintained by H.M. Office of Works. Compiled by Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., Director of Works, H.M. Office of Works 68

List of County Ancient Monuments Committees and Chief Correspondents appointed by the Ancient Monuments Board for England 69

List of County Ancient Monuments Committees and Hon. Correspondents appointed by the Ancient Monuments Board for Wales 74

List of Monuments in England, Wales and Scotland, scheduled for protection by H.M. Commissioners of Works, in pursuance of Section 12 of the Ancient Monuments (Consolidation and Amendment) Act, 1913 (3 and 4 Geo. V, ch. 32) 75

List of Monuments in Wales scheduled for protection by H.M. Commissioners of Works 95

List of Monuments in Scotland scheduled for protection by H.M. Commissioners of Works 99

The Protection of Ancient Monuments in the Irish Free State (Saorstát Eireann), by Harold G. Leask, Esq., Inspector of Ancient and National Monuments 107

List of National and Ancient Monuments in the Irish Free State (Saorstát Eireann). Compiled by Harold G. Leask, Esq., Inspector of Ancient and National Monuments 108

List of Ancient Monuments in Northern Ireland, in the charge of the Ministry of Finance for Northern Ireland, Belfast, under the provisions of the Ancient Monuments Act (Northern Ireland), 1926. Prepared by D. A. Chart, Esq., Secretary to the Ministry 115

Rural Industries Bureau 117

Royal Commission on Ancient and Historic Monuments and Constructions (England) 117

Royal Commission on Ancient and Historic Monuments and Constructions (Wales) 118

Royal Commission on Ancient and Historic Monuments and Constructions (Scotland) 119

List of Archæological and kindred Societies in England 119

List of Archæological and kindred Societies in Wales 149

List of Archæological and kindred Societies in Scotland 152

List of Archæological and kindred Societies in Ireland 154

CONTENTS—*continued.*

Part III

Matter for the benefit of Owners, Architects and others relating to the causes of decay and methods of reparation, reinstatement, etc., with lists of Artists, Craftsmen and Firms recommended for various kinds of work and a list of Manufacturers of suitable Building Materials, accessories, etc.

Page

Enquiry Bureau 161

Lists of Artists and Craftsmen specially recommended on account of the general excellence of their work 161

List of Firms specially recommended on account of the general excellence of their work 164

List of Firms specially recommended on account of the general excellence of the furniture, equipment, materials or accessories of various kinds which they can supply 170

List of Firms specially recommended on account of the excellence and superior quality of the building materials they can supply, and, especially, on account of their suitability for use in the reparation of various kinds of ancient buildings 174

Index of Advertisers 176

Notes on the Nature, Decay and Preservation of Stone, by Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., Director of Works, H.M. Office of Works 177

The Consolidation of Fractured Structures by grouting and reinforcement 189

Underpinning 192

Notes relating to Dry Rot 195

Notes relating to the destruction of timber by the Death Watch Beetle, the Furniture Worm, etc. 201

LIST OF ILLUSTRATIONS

	Page
Frontispiece—The Fountain in the Great Court, Trinity College, Cambridge	
William A. Walker	10
Back of Half-timber Cottages at Swanton Street, Kent	14
Front View of Cottages at Eashing, Surrey	17
Back View of Cottages at Eashing, Surrey	21
Destroyed Cottage at Stanstead, Suffolk	24
Derelict Almshouses at Nunney, Somerset	27
Demolished Cottage at Craven Arms, Salop	30
Half-timber and Thatched Cottage at Bromfield, Salop	33
Cottage Gable at Alderley Edge, Cheshire	37
Cottage at Selworthy	43
The Excavation of the Cellarage under the Frater at Cockersand Abbey	51
Moreton Old Hall, near Congleton, Cheshire—The Courtyard ...	55
Anglia Monastica—Province of Canterbury	70
Anglia Monastica—Province of York	83
Paycocke's House, Coggeshall	89
The Old Priest's House, Muchelney, near Langport, Somersetshire	116
Temple Bar	160
Durham Castle—Consolidating the Walls in 1926	188
Winchester Cathedral—Section through Wall of Presbytery ...	194
Westminster Hall Roof—Photograph of a drawing illustrating Xestobium Tessellatum	196
Wood attacked by the Larvæ of the Death Watch Beetle	200
Flight Holes of the Death Watch Beetle	200
Larva of Death Watch Beetle in Wood	210
Pupa of Death Watch Beetle in Wood	210
The Death Watch Beetle	210

WILLIAM A. WALKER.

The expert diver who underpinned Winchester Cathedral single-handed and in pitch darkness.

Reproduced from "Sixty-three Years of Engineering," by the late Sir Francis Fox, by courtesy of the Author and Mr. John Murray, the Publisher.

Part I

Matter of topical interest relating to Ancient Monuments, Works of Art and Craftsmanship

INTRODUCTION

by the Right Honourable the Earl of Crawford and Balcarres, K.T., P.C., LL.D., F.R.S., F.R.I.B.A., President of the Society of Antiquaries.

HERE is the first issue of the *National Ancient Monuments Year Book*, and its preface affords me an opportunity for a brief survey of outstanding events during the last twelve months. And let me say at the outset that all who are interested in the preservation of our ancient buildings have every reason to be satisfied with the trend of public opinion, exemplified in many directions and not least in the fact that there is now a general demand by the public for the presentation of an illustrated Year Book of this kind. This in itself is noteworthy. I wish something of the kind could have been accomplished five-and-twenty years ago, for such a publication could not have failed to stimulate interest, while affording a useful record of effort, of success and, alas, of failures too.

Two or three cases deserve special emphasis—firstly, that of Waterloo Bridge; secondly, the fight for the protection of City churches; and lastly, the movement recently inaugurated by the Prime Minister at the Society of Arts, for preserving ancient cottages. This last project should enlist all our sympathies. These old-world evidences of our local architectural history have been all too frequently destroyed, and it is high time that a concerted effort was made to prevent needless demolition in the future. Much careful thought has been given to the best methods of conservation and repair; but it should be clearly understood that unless the structure can be strengthened in such a way as to make it thoroughly efficient from the point of view of comfort

and health, the cottage in question ought not to be preserved, unless it can be kept as a specimen or museum piece. In all normal cases the protection of these interesting buildings must be allied with the provision of thoroughly suitable and workmanlike homes.

Far more controversial have been the cases of Waterloo Bridge and the City churches. It will be remembered that the decision of the London County Council to remove Waterloo Bridge and to replace it by a new structure twice as broad and designed to carry a double line of tramways, encountered deep-seated opposition. As the idea was subjected to closer scrutiny, it became clear that the traffic argument justifying the demolition of the old bridge was defective, and that the financial scheme was disquieting; these considerations, taken in conjunction with the intense dislike of public opinion as a whole for scrapping this historic bridge, finally induced the Government to appoint a Royal Commission of enquiry. Acting under Lord Lee's chairmanship, this Commission diligently examined the problem, and reported that Waterloo Bridge should be substantially preserved, though they felt it necessary to suggest a widening by means of corbelling out, in order to provide rather better road accommodation. The final issue is still unsettled at the time of writing; but the important thing from our point of view was the overwhelming strength of public opinion. A memorial was submitted to the Government, signed, I suppose, by a hundred people or more, but representing all views and parties with a strength rarely if ever paralleled in petitions of this character. The fact is that, as a whole, the public had not previously realised the paramount importance of Waterloo Bridge, perhaps our greatest architectural achievement since St. Paul's Cathedral; and a structure which in my opinion seems to embody the immense though unostentatious reserves of dignity and strength beginning in the early days of our national life and character, but carried on all through the eighteenth century, and finally embodied in this astonishing building, erected as recently as 1811-17, a period not usually associated with such grand and monumental architecture. Once public opinion was aroused it proved irresistible.

The City churches, for which a spirited and successful fight was made last autumn, are interesting architecturally, though from quite a different point of view. Existing legislation provides that livings can be amalgamated and superfluous churches can be pulled down. Under this Act no less than twenty churches have disappeared from the City of London during the last sixty years—that is to say, one church in three years, not what one would call a slow or cumbrous process of destruction. But each scheme required its own Act of Parliament, and the procedure was looked upon as too tedious for modern requirements, and, moreover, liable to miscarriage if Parliament happened to misbehave itself. It was therefore proposed to give general powers, subject to rather elaborate procedure, to arrange amalgamations. Many assurances were given that so far from being a Bill to destroy City churches, it was really intended to preserve them and that the fears of critics were greatly exaggerated. But as the promoters of the Bill had spoken of these churches with unconcealed and sometimes with almost derisive scorn, it was perhaps not unnatural that there should have been much scepticism about entrusting power to the hands of those who looked upon these churches as superfluous and ugly. The measure passed through the House of Lords, not without difficulty; but I rejoice to say was decisively rejected in the House of Commons. Here again public opinion exercised overwhelming pressure. Many of those who opposed the Bill did not pretend to be acquainted with all the threatened churches, but felt that our losses in the past have been so grave, and the survivals of our great architectural history (especially in our big urban centres) are becoming so rare, that although a measure of vandalism might have been pardonable fifty years ago, and perhaps even beyond criticism a century earlier, we have now reached a time when all these things have acquired a national value which representatives of the nation are in honour bound to respect.

This laudable sentiment it is the duty of all who are interested in the preservation of ancient buildings to uphold.

BACK OF HALF-TIMBER COTTAGES AT SWANTON STREET, KENT.

Reproduced from "Old Cottages and Farmhouses in Kent and Sussex,' by W. G. Davie and E. G. Dawber. Published by B. T. Batsford, Ltd.

The Preservation of Ancient Cottages*

An Appeal by The Rt. Hon. Stanley Baldwin, M.P.,
with a Note by Thomas Hardy, O.M.

ON behalf of the Royal Society of Arts I cordially endorse the Appeal of the Prime Minister, and wish every success to the Fund for the Preservation of Ancient Cottages.

ARTHUR,
President of the Royal Society of Arts.

Dear Sir or Madam,

At a conference called by the Royal Society of Arts on January 26th for the purpose of considering the best means of preserving the ancient cottage architecture of this country, it was my duty, as Chairman, to propose a resolution approving the action of the Society, and signifying the intention of the meeting "to assist in the establishment of a substantial fund for application on the broadest national lines in furtherance of this movement." The resolution was supported by the Earl of Crawford and Balcarres, the Speaker of the House of Commons, and the Right Hon. Sir Alfred Mond, M.P., and carried unanimously.

In order to give effect to the terms of the resolution, I now appeal to all those who appreciate the beauty of our old English cottages to contribute to the Fund which has been inaugurated.

The Cottages of England.

Nothing is more characteristic of England's countryside than the cottage homes which, for century upon century, have sheltered her sturdy sons of toil. Who has not felt a thrill of admiration on catching sight of some old-world village round a bend of the road? The roofs, whether thatched or tiled; the walls, weather-boarded or half-timbered, or of good Cotswold stone—have been built with material ready to the hand of the craftsman, and, painted with the delicate pigments only to be found on the palette of Father Time, have grown amid their surroundings just as naturally as the oaks and elms under whose shade they stand. They are part of our country, part of our inheritance, part of our national life. No other country in the world has anything to compare with them. Ought we not, then, to be proud of them, to protect them—to do everything in our power to save them from decay?

[**Reprinted by courtesy of the Council of the Royal Society of Arts.*]

As one of the founders of this movement has remarked:

> "There are certain elements of mediæval society which are only clearly brought out in mediæval building, and particularly are the elements of social history brought out by an understanding of the village; its preservation, therefore, is of vital importance, purely as historical fact. It is our scroll of tradition unrolled in 'England's green and pleasant land'—a most perfect and orderly record, from which a clear historical synthesis can be obtained, giving a re-orientation in the study of the past, of the lives and social habits of our people; and it constitutes the vital material and spirit of our history."

We have, however, neither preserved these priceless gems of English craftsmanship, nor have we learnt the lesson that many still remain to teach. As I remarked at the Conference to which I have referred:

> "While we all recognise that good housing is, and ought to be, a great civilising power, we have to confess that we and our immediate ancestors have neglected it both from that point of view and from every other point of view. Neglect always has to be paid for at great price, and the neglect of the past two or three generations is being paid for to-day in hurry and too often in want of thought that have led the country directly to disaster. If I remember aright, William Morris once said that it was his function to stain wallpapers with poetry. No one can say that we have stained buildings with poetry for the last two or three generations. We have stained them with prose, and pretty bad prose at that, the kind of prose you may read in the little descriptive paragraphs that appear between the acts of a second-rate film.
>
> "We have to see if we cannot once again tap the springs of craftsmanship which have not flowed in this country for so long. It is not a hopeless task, but it is a case of craftsmanship lying dormant among the people. It is there, and it has been called up here and there among various arts. I am quite certain that if the right magician's wand were used it would spring again into fertile being throughout the length and breadth of the country. It is peculiarly incumbent on us, and I think that we should insist that the old tradition should carry on until a new tradition, possibly linked up with the old, is ready to take charge of these things in England, just as it is so essential that all men who can shall carry on until a generation has grown up to repair the wastage of the Great War."

FRONT VIEW OF COTTAGES AT EASHING, SURREY.

Reproduced from "Old Cottages and Farmhouses in Surrey," by W. G. Davie and W. Curtis Green. Published by B. T. Batsford, Ltd.

Why They are Vanishing.

Unfortunately, among the owners of these cottages are many who are unappreciative—to whom the word "beauty" has no meaning. In some parts of the country it is no uncommon thing to see fine old thatched roofs shamelessly patched with corrugated iron, or entirely replaced by it. Other owners, again, have felt the pinch of the times, and let their cottages fall to pieces from sheer inability to keep them in repair. Then, the well-meaning but thoughtless zeal for widening roads has robbed us of many a native homestead, to be replaced by gimcrack bungalows with composition-tile roofs, or ill-proportioned and bedizened "villas." The photographs show a few specimens of what we have lost, or are in danger of losing, from these and other causes.

Stop the Rot!

How can the rot be stopped? In the first place, public opinion must be roused. Fortunately there are already favoured spots where local patriotism is strong and jealously watches its treasures. That, however, is still the exception rather than the rule, so that an unappreciative owner is unrebuked when he patches or replaces his thatch with asbestos tiles, or with the latest horror, asbestos camouflaged to look like corrugated iron! Happily, to judge from the amount of correspondence and leading articles which have lately appeared in the Press, and from the recent formation of the Council for the Preservation of Rural England, the public conscience is beginning to prick, and this leads us to hope that the present moment is opportune to start an intensive salvage scheme.

Fund for the Preservation of Ancient Cottages.

The Royal Society of Arts have therefore decided to do what they can to save these cottages—not for the week-ender, who may be left to look after himself, but for the benefit of those classes of local workers for whom they were originally built. Further, as the Speaker of the House of Commons put it, the aim of the Society is to preserve these cottages "not as museums but as homes." A draft scheme has been prepared indicating the lines on which the Fund should be administered. For instance, a sum may be contributed equal to the difference between economic repair and that kind of repair which the cottage deserves as a fine example of craftsmanship; or the Society may provide the difference between a Government subsidy and the total cost of proper restoration; or it may purchase a cottage outright. In every case in which a grant is made the Society will be at liberty to lay down such conditions as may be thought fit.

ORGANISATION.

In order to make the movement nation-wide, a large Advisory Committee is being appointed, which will include representatives of appropriate established institutions. In this way a network will be spread over the whole country by means of which the Committee will be kept informed of all cases calling for consideration. The Advisory Committee will appoint a small Executive Committee of experts who will examine the claims of the different cases as they arise. This Committee will recommend what action should be taken to the Council of the Royal Society of Arts, who, as trustees of the Fund, will have to sanction expenditure before it can be made.

Moreover, landlords and local authorities will be invited to bring their own problems to the notice of the Advisory Committee with a view to receiving advice and assistance; and reports of decayed and derelict cottages, which may be forwarded by persons interested in the movement, will be carefully considered.

APPEAL FOR HELP.

At the outset, at all events, the Society will be able to place its organisation at the service of the Fund, so that administrative expenses will be reduced to a minimum and practically all the money subscribed will be available for the actual work of preservation. The scale of the operations must obviously depend upon the amount subscribed to the Fund. As there are thousands of cottages throughout the country in imminent danger of demolition, I beg for a wide and generous response to this appeal. To every motorist, to every cyclist, to every pedestrian who has toured through rural England and whose eye has rested with delight on some lovely old-world cottage, I appeal for a contribution to help us in this cause; nor do I forget our good friends in America, many of whom are second to none in their admiration of our countryside, which, after all, is as much their heritage as our own.

I am,
Yours faithfully,
STANLEY BALDWIN,
Chairman of the Conference.

NOTE BY THOMAS HARDY, O.M.

I can with pleasure support the appeal of the Royal Society of Arts for assistance in its plan towards preserving the ancient cottages of England, having been, first and last, familiar with

many of these venerable buildings in the West of England, and having also seen many of them vanish under the hands of their owners, through mistaken views not only on their appearance, but on their substantiality and comfort.

They are often as old as the parish church itself, but in consequence of a lack of distinctive architectural features in most, it is difficult to pronounce upon their exact date. In this district they continued to be built in the old style down to about the middle of the last century, when they were ousted by the now ubiquitous brick-and-slate. By the merest chance I was able, when a child, to see the building of what was probably one of the last of these old-fashioned cottages of "mud-wall" and thatch. What was called mud-wall was really a composition of chalk, clay, and straw—essentially, unbaked brick. This was mixed up into a sort of dough-pudding, close to where the cottage was to be built. The mixing was performed by treading and shovelling—women sometimes being called in to tread—and the straw was added to bind the mass together, a process that had doubtless gone on since the days of Israel in Egypt and earlier.

It was then thrown up by pitch-forks on to the wall, where it was trodden down, to a thickness of about two feet, till a "rise" of about three feet had been reached all round the building. This was left to settle for a day or two, and then another rise was effected, till the whole height to the wall-plate was reached, and then that of the gables, unless the cottage was hipped, or had a "pinion" end, as it was called. When the wall had dried a little the outer face was cut down to a fairly flat surface with a spade, and the wall then plastered outside and in. The thatch projected sufficiently to prevent much rain running down the outer plaster, and even where it did run the plaster was so hard as to be unaffected, more lime being used than nowadays. The house I speak of is, I believe, still standing, unless replaced by a colder and damper one of brick-and-slate.

I can recall another cottage of the sort, which has been standing nearly 130 years, where the original external plaster is uninjured by weather, though it has been patched here and there; but the thatch has been renewed half a dozen times in the period. Had the thatch been of straw which had passed through a threshing machine in the modern way it would have required renewal twice as many times during the existence of the walls. But formerly the thatching straw was drawn by hand from the ricks before threshing and, being unbruised, lasted twice as long, especially if not trimmed; though the thatcher usually liked to trim his work to make it look neater.

I have never heard of any damp coming through these mud-walls plastered and lime-whitened on the outside. Yet as

BACK VIEW OF COTTAGES AT EASHING, SURREY.

Reproduced from "Old Cottages and Farmhouses in Surrey," by W. G. Davie and W. Curtis Green. Published by B. T. Batsford, Ltd.

everybody, at any rate every builder, knows, even when brick walls are built hollow it is difficult to keep damp out entirely in exposed situations.

Landowners who have built some of these latter express their wonder that the villagers prefer their old dingy hovels (as they are regarded) with rooms only six feet high, and small dormer windows with little lead squares, to the new residences with nine-feet rooms and wide windows with large panes. The explanation is the simple one that in the stroke of country winds a high room is not required for fresh air, sufficient ventilation entering through the door and window, and that the draught through the hollow brick wall makes the new cottages cold in winter.

I would therefore urge owners to let as many as are left of their old cottages remain where they are, and to repair them instead of replacing them with bricks, since, apart from their warmth and dryness, they have almost always great beauty and charm. Not only so, but I would suggest that their construction might be imitated when rebuilding is absolutely necessary.

Contributions, which should be made payable to the Royal Society of Arts and crossed "Messrs. Coutts and Co., Fund for the Preservation of Ancient Cottages," should be addressed to the Secretary, Royal Society of Arts, John Street, Adelphi, London, W.C.2.

The Preservation of Ancient Cottages*

By Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A.,
Director of Works, H.M. Office of Works.

THE purpose of this paper is two-fold—practical and æsthetic; practical, in the sense that a cottage preserved is a cottage provided; æsthetic, for reasons which need not be emphasised to an audience such as I have the honour of addressing.

Cottage architecture is part of that great tradition of craftsmanship which distinguished mediæval England, part of that splendid practice of architecture which has been said to comprise the vast scroll of humanity, and has acted as the chief expression of man in all his stages of development.

In mediæval cottage building, the tradition is a peculiarly intimate one. Almost every tradition is contained within some building or monument. But cottage building, developing as it did side by side with human thought and capacity, and growing with the changing social conditions of the people, presents a changing yet true symbolism, transforming into palpable shape the records and history of the past.

That rural architecture which truly belongs to the village or hamlet is the building art of the village craftsman, and is a definite branch of our country's culture. In the chartered towns during the Middle Ages the powerful craft guilds held complete sway over their members, supplying the great ecclesiastical establishments and feudal lords with craftsmen of the highest skill, yet leaving at the same time a sufficient quantity and quality of craftsmanship for the intimate village building of which I speak.

The mediæval villages were small, containing from 50 to 300 souls. There was no primary difference between the municipal and the rural population. Some townships bought their freedom by charter earlier than others; some lingered unfree because their lords would not sell.

The men who built and lived in these villages did not "wade through slaughter to a throne"; in them were elements of a primitive yet orderly peace. We must not, however, disregard the elements of tragedy to be found in the village, witness the remarkable study of the conditions of mediæval peasant life made by Mr. G. G. Coulton.

[*Reprinted by courtesy of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., and the Council of the Royal Society of Arts.*]

DESTROYED COTTAGE AT STANSTEAD, SUFFOLK.

Reproduced from "Old Houses and Village Buildings in East Anglia," by Basil Oliver. Published by B. T. Batsford, Ltd.

No man who reads Chaucer's description of the Ploughman can doubt that at its best the life of the village had a true dignity. The poet urges us never " to forget the record of poor folk in cottages charged with children and with church lords' rent." It was families such as these which supplied our Universities with their best material.

Even in the Middle Ages a village aristocracy, not of rank but of merit, sprang up. When the villager bought his freedom he sought learning. His qualities came from the land which is eternally healthy, and like all people he suffered least when he was the least estranged from it; for nothing ultimately useful is to be obtained from this world of reality but what is wrung from it by the sweat of the brow.

To get a clear view of the conditions we must remember that fourteenth century London had a population of only 30,000 to 40,000. This figure is proportionately far higher in comparison with the population of the leading provincial towns in the Middle Ages than obtains to-day. Lincoln, for instance, with a population of 5,000 was quite a small place in the fourteenth century. Domesday Book mentions 9,250 villages, 80 towns (or large villages) and 10 fortified towns, such as York, Chester, etc.; all with a total population of 2,000,000, 75 per cent. of which was engaged in agriculture.

In Chaucer's day it is said that at least 75 per cent. of the population consisted of peasants and 50 per cent. of the men were unfree. Yet there must have been a sense of well-being in the country, for Chaucer's poetry breathes a freshness and vigour which reflects the healthy condition of Chaucer's England.

The English villager was probably better off from about 1450 to 1500 than in the earlier Middle Ages, and possibly than in the seventeenth and eighteenth centuries. He enjoyed specific rights, as is shown by the fact that certain villagers complained to their Prior that owing to his neglect they were losing their right of user which they had hitherto enjoyed in the manorial woods, from which they had been accustomed to take wood for fuel and building.

The cottage was recognised as being the chief material possession of the villager. When distresses levied upon him were not paid the Abbots had the right to remove his doors and windows. Priors are known to have claimed the right of seizing the door of any house the tenant of which refused to contribute to their mid-Lent bonfire.

The whole art of cottage building developed experimentally, as up to a certain point all forms of art must develop. Experience was intensified by the formation of certain practices into a

kind of local tradition, which was handed on to the next generation under certain wide and general rules. Craftsmanship was not individual; it was superior to the individual. It existed as a great pool of experience and practice into which the individual could dip. His individuality was assisted and refreshed by reference to this common source of building knowledge.

The great cottage builder of the mediæval period was the carpenter, and the greater portion of both large and small houses was the work of the carpenter.

To get a clear view of the English cottage in the thirteenth century we can refer to a specification for a peasant's cottage in 1281. "There is to be built," runs the order, "a competent dwelling for her (a widow) to inhabit, containing 30 feet in length within the walls and 14 feet in width, with corner posts and three new and competent doors and two windows." This description points to a two-roomed cottage, i.e., a living-room, which would be the widow's "hall and bower," and a stable, with a communicating door between the two. Chaucer clearly implies that his poor widow and her daughter lived on intimate terms with their livestock, while there is evidence that the early cottage type could readily be dismantled and removed. It is stated, for example, that about 1426 A.D. "William Found had departed and carried off his cottage."

With regard to rent, this was generally commuted in the interest of the lord of the manor, and in early mediæval times against the tenants' will. In the long run, however, it must have benefited the tenant through depreciation in money values. England was ahead of other European countries in the progress from the natural towards a money rental, for commutation had gone some way before the intervention of the Black Death. That appalling catastrophe shook what was already tottering in mediæval social life and was followed by a rapid increase in commutation. This is shown by the remarkable increase of free labour within 30 years of the pestilence. The hundred years which followed the Black Death saw the complete disintegration of the old manorial order. Labour became scarce; it was impossible to enforce statutes on labourers or to prevent villeins from fleeing to townships where workers were needed. Thus a new class of yeomen grew up who had direct influence upon the tradition of house-building in England.

Before 1500 great cleavage was beginning between Capital and Labour. The breaking up of the village began long before the practice of Monastic enclosure had become so common as to call for interference. In 1414, near Cambridge, enclosure had reached such a pitch that most of the labourers were turned off the land, and "there was great waste of housing and of hallies

DERELICT ALMSHOUSES AT NUNNEY, SOMERSET.

and chambers, and other chambers of office and common housing left standing thereon." It was left to a commission under Wolsey in 1517 to grapple fearlessly with the enclosures, but the loss in mediæval cottage building must have been immense. The Abbots appear to have been great offenders by enclosure, and in More's "Utopia" it says, "they threw down houses, they plucked down towns and leave nothing standing but only the church to make a sheep-fold." The monk appears to have been a capitalist first and a churchman afterwards; and if England had no Goldsmith in 1500 it had its "deserted village."

The early mediæval serf though distinctly above the slave was no less distinctly below the free man. The Black Death helped him to break down his ancient disabilities, and there thus sprang up a class of yeomen in the villages whose dwellings survive in part to-day. These dwellings it is our duty to preserve, for without the material for comparing the status of human life and the facts of social conditions at different periods and in different places, history can teach us little. The record afforded by the surviving cottage architecture is of vital historic importance.

After the Black Death, when the shortage of craftsmen gave bargaining power, the conditions of Labour were still far from ideal. Gower was apparently scandalised by the wages which labourers asked, and shows a simple horror that the shepherd and cowherd should demand wages higher than the master bailiff was wont to take. The ideal labourer was still held to be one who was content to dine on yesterday's cabbage, with penny ale and occasionally a piece of singed bacon.

To illustrate the villagers' rate of payment, dairymaids could be hired at much less cost than men, although the dairyman, cheapest of all farm servants, received only 5s. a year to the bailiff's 13s. 4d., the ploughman's 10s. and the carter's 6s. 8d. 5s. then was equal roughly to £5 in pre-War days. Plain board and lodging was included but feeding was of a poor order. On Fridays and fast days a farthing's worth of mussels was considered a feast "for such folk."

As to their hours of work we learn from Beverley Town documents that the work of the craftsman in the fifteenth century began at 4 a.m. from Easter to August and continued till 7 p.m. At 6 a.m. a quarter of an hour was allowed for drinking, at 8 a.m. half an hour for breakfast, at 11 a.m. an hour for drinking. After August 15th work lasted as long as the light, with half an hour for breakfast at 9 a.m., an hour for dinner at 12 noon and a quarter of an hour for drinking at 3 p.m.

The statute of 1562 relating to artificers fixed the minimum working day between the middle of March and the middle of

September at 12 hours, and the term of apprenticeship at seven years. The craft guilds themselves had very definite rules, and in the chartered towns they held complete sway. In the smaller villages there was often a guild for craftsmen of all the combined trades. Travelling bodies of craftsmen appear to have moved over the country, while if any craftsman wished to follow his craft unrestricted he could elect to work beyond the confines of a town, and probably he was instrumental in evolving the traditional village craft of many districts.

There is ample evidence, however, to show that much of the village building was done by trained craftsmen outside the great guilds. For instance, John Cross, the village carpenter of Yatton, Somerset, made a rood screen for the parish church, which was executed for a sum of £3 10s. 4d. in 1447. John Wright of South Mimms, a small village even to-day, carved the beautiful corbels supporting the wall posts of Henry's VIII's Great Hall at Hampton Court, in 1532.

Village architecture brings down to our own day the true traditional work which began to be lost as a result of the Renaissance. Yet there were exceptional cases, where great lords such as Wolsey remained the patrons of native English craftsmen. Between 1515 and 1529 Wolsey engaged at Hampton Court Palace craftsmen whose names are uniformly English. Of those engaged between 1689 and 1723 only one was English. The fifteenth century buildings of Norfolk are entirely English, as also are those of Somerset, but in spite of this their location can be perceived at a glance by those with knowledge of the distinctive local tradition.

If England is not to suffer from the criticism addressed to the United States by Henry James that "they lacked all sense of the past," attention must immediately be directed to the preservation of the ancient cottages still remaining in this country. The subject is becoming a vital one to those who have this "sense of the past." The Vice-Chancellor of Oxford recently called attention to the matter, and after emphasising the fact that our villages and many of our country towns still preserve the beauty of the past, pleaded for immediate action for their continued preservation.

Mr. Henry Batsford, to whom I am indebted for many of my slides, has also concerned himself very earnestly with this question. Lamenting the enormous loss of traditional architecture within the last century he instances the wonderful collection of drawings by John Buckler, about 1830, showing the quality of the smaller Hertfordshire townships, once beautiful with gabled buildings, but now universally commonplace or even slummy. Even 100 years ago the amount of beautiful domestic

DEMOLISHED COTTAGE AT CRAVEN ARMS, SALOP.

Reproduced from "Old Cottages, Farmhouses and other half-timber Buildings in Shropshire, Herefordshire and Cheshire," by J. Parkinson and E. A. Ould. Published by B. T. Batsford, Ltd.

architecture was amazing, and before the nineteenth century laid its blighting hand upon them, cities such as Bristol and Exeter were indeed exemplars of architectural excellence.

The subject would seem to make an almost universal appeal. The veriest philistine will agree that preservation is called for. Up to the present, however, little has been done, except that attention has been called to the problem by societies such as the Society for the Protection of Ancient Buildings and the National Trust and by individuals such as Mr. Sidney Jones, the late Mr. Galsworthy Davie and Mr. Avray Tipping. To mention all those who have done excellent work would take up more time than I have at my disposal; but the time has now arrived to put the issue on a broad national basis so that the bitter loss going on from day to day may be ended once for all.

The President of the Royal Institute of British Architects recently emphasised the need for the preservation of cottages, not for their antiquity merely, but for their utilisation as repaired and hygienic houses, retaining their ancient charm and linking with the interests of to-day the associations and traditions of the past.

The question is often asked as to whether the Commissioners of H.M. Works and Public Buildings can take over and preserve cottage architecture, and whether they can definitely act to prevent the destruction of such buildings. As matters stand the Commissioners are precluded from safeguarding buildings used as dwelling-houses under Section 8 of the Ancient Monuments Act of 1913.

Taking a broad view of England we observe a large central band of oolitic limestone running from Portland and the Severn in a north-easterly direction to the Humber and the Tees. This great deposit supplied excellent building stone to the Cotswold and Northamptonshire craftsmen. In the south-east and in the West Midlands was abundant timber, while in most parts of the country clay was plentiful. In the south-west there was granite, a difficult and intractable material whose use evolved an admirable if severe local type. In the north were various hard stones and in the chalk districts there grew up a traditional use of flint for house-building, which in East Anglia showed a remarkable craftsmanship in the use of this refractory material.

To-day there is a consistent extinction of local tradition in the village and countryside. Of all the housing erected within recent years the great majority is stamped with a sameness of type, proclaiming it a growth from one movement. The menace to-day is a growing one and is graver than it has ever been. There is the local builder who buys up old property and "improves" it. There is the loss incurred by the movement

into our villages and townships of the banking and public house interest, involving, with its passion for "desirable corner sites," the demolition of fine original work. There is the danger to cottage buildings through the provision of new and widened roads for motor traffic. There is the further risk arising from sheer indifference, ignorance, incompetence and absence of financial resources; and, finally, there are the great losses through fire.

I do not propose to attempt in this paper to give a schedule of examples of destruction, neglect and ignorant spoliation; they are legion. They depress the mind rather than assist it to take action. Our problem to-day is to interest those who are prepared to assist in and devise a scheme which will prevent this waste and destruction in the future, without alienating the cottage from its original purpose, preserving it as a definite contribution to the housing problem of the people.

An ignorant lack of appreciation has been the cause of the loss of much beautiful old work. In certain cases this is due to an entirely wanton destruction: witness one most lamentable instance, that of a house in Shropshire, at Craven Arms. It was a beautiful cottage, composed of half timber, and plaster, with tile and stone-slabbed roof; it had some remarkable brick chimneys—a wonderful piece of complete design, which can never be recaptured for England.

Again, a most beautiful cottage of half timber, tiles and thatch, was demolished at Storrington, on the South Downs; and another perfect example of the usual seventeenth century Cotswold type at Box, Wiltshire, with stone walling and stone slates. All these have been demolished in comparatively recent years.

At Stourbridge, Worcestershire, a piece of village composition, perfect in its way, a complete row of cottages, was demolished to make way for a public library and a war memorial in the worst of taste.

At Birchington, Kent, a very simple type of brick and tile cottage, quite distinctive of its kind, was pulled down in 1916; while the Press announced recently a proposal to demolish the First and Last Inn, Exmouth—one of the oldest in the country—to make room for modern premises.

In other cases destruction has been due to perhaps uncontrollable causes such as tempest and fire. For example, cottages of cob walling and thatch at North Tawton, Devon; cottages of stone, brick, plaster and thatch at Mildenhall, Wiltshire. Another of timber frame, parge and thatch, a striking example of a cottage dated 1653, at Stanstead, near Long Melford, Suffolk.

HALF-TIMBER AND THATCHED COTTAGE AT BROMFIELD, SALOP.

Reproduced from "Old Cottages, Farmhouses and other half-timber Buildings in Shropshire, Herefordshire and Cheshire," by J. Parkinson and E. A. Ould. Published by B. T. Batsford, Ltd.

Many cottages are in the last stages of dilapidation, such as those at Wyrardisbury and Brill, Bucks., built of half timber, plaster and tiles; and at Castle Combe, Wiltshire, is one likely to be lost for ever. Others at Nunney, Somerset, built of stone and stone slates in the finest tradition, are also in the last stage of decay. These cottages are probably of late sixteenth century date, and share the neglect of the fine Castle in the village.

Others at Cleobury Mortimer, Shropshire, of half timber and stone slates, at Normandy Village, Surrey, of half timber and tiles, are in the last stages of dilapidation; while "restoration" has robbed the cottages at Hitchin, Hertfordshire; Shanklin, Isle of Wight; Beddington, Surrey; and Ombersley, Worcestershire, of all their original quality.

Innumerable examples can be cited of the introduction of modern and foreign material, substituted for the native material of the district. At Musbury, Devon, for example, corrugated iron has been used over the old thatch. The list could be indefinitely extended—a catalogue of callousness and error.

The need to be up and stirring is only too plain. The repeated and determined efforts to sweep away Archbishop Whitgift's Hospital at Croydon are too well known to need emphasis; and the proposal to destroy that fine group of cottages at Bury St. Edmunds, with the "Star" Inn, as the centre, with its remarkable chimneys, is another instance. In this town a row of charming cottages has already been swept away.

I propose to show a group of slides, bringing out that quality in the cottage buildings of this country which appeals to us all without distinction.

The majority of ancient cottages remaining to us date from 1580 to 1690. Earlier examples of course exist, at at Montacute, Somerset, a Tudor cottage of coarse rubble, with freestone dressings, where, unfortunately, the roof has been lowered; and the importance played by roof style is well brought out by the view of the village of Corfe Castle, in Dorset; and the roofs of cottages at Bradford-on-Avon, in Wiltshire. In the last view the stone slates in their diminishing courses, with swept valleys and stone verges, are seen from above: we have no roof of anything approaching this quality in our latter-day cottage building. A good deal of work in this style still remains, more particularly in Gloucestershire, although Mr. Guy Dawber has pointed out how, during the eighteenth century and later, it was no uncommon occurrence for the cottagers to be turned out of their villages, and their dilapidated cottages pulled down to remove a burden from the landowner. This held to account to some extent for the lack of cottage building between the end of the seventeenth century and the middle of the nineteenth.

The example from Bibury, in Gloucestershire, is of a more or less normal type, but variations from this are considerable even in the same county.

Church Iccomb, Gloucestershire, shows straight-headed half dormers, with eaves; and at Coln St. Aldwyn, Gloucestershire, we see one-storey cottages, with typical dormers in the roof.

Again, at Weston-sub-Edge, these delightful cottages show stone verges to the dormers.

The Westington cottage at Campden, Gloucestershire, has a typical thatched roofing, giving a very distinctive character to the dormers.

The bay in the gable at Lyddington, Rutland, is reminiscent of the earlier work at Montacute in Somerset, and at Finstock, in Oxfordshire, the steeply pitched thatched roof belongs to a type found more normally in Northamptonshire.

In some parts of Somerset, lias takes the place of freestone for all the dressings, and in Northamptonshire ironstone quoins and bands of a rich brown colour are common, as at Blisworth and at Yarwell. In the same county we may see that successful feature, the canted bay with square top on plan, which occurs at Duddington, and elsewhere. The remarkable architectural quality of these cottages is well shown in the view; at Colley Weston we get a good example of a Northamptonshire village of the Cotswold type. If you stand by Broadway Tower on the steep northern escarpment of the Cotswolds and look over the "coloured counties" behind you, all the villages are built of limestone, and Broadway is the last outpost of the Cotswold type.

On either side of the great oolite belt, up to a line drawn roughly between the Dee and the Wash, to the marshes of Wales in a North-Westerly direction, and to the English Channel and almost to the North Sea, if we exclude part of Wiltshire and also Norfolk—the most normal type of cottage is of timber-frame construction. Although the North-Western types vary materially from those in the South-East, yet, as in the churches we find a striking resemblance between Tichmarsh Tower in Northamptonshire and those of Somerset, so, in the cottages also we find at Middlebrook, Herefordshire, a type which would be just as much at home with the traditional work of the South-Eastern counties. Here the projecting windows have unfortunately disappeared, but the distinctive type still shows from what is left. The greater number of the timber-framed cottages in this country were built during the latter half of the sixteenth to the first quarter of the seventeenth centuries, the last fifty years of which were the most productive. In the

North-West counties the timbers were larger and more massive than in the South-East, and the overhangs are consequently bolder. Moreover, the elaboration of ornamental forms in the timber itself becomes more apparent, particularly so in Cheshire. Flags and slates of a far heavier variety than are found in the limestone district or Cotswold type, are used as roof covering, as an alternative to thatch. Plain tiles become common, although Mr. Ould suggests that these are not original, as tiles are believed to have been little used when such cottages were built, owing to the difficulty of burning them. For a similar reason, bricks were only used where no stone was available. Chimneys are usually of stone, but to-day the shafts have often been rebuilt in brick, and those on the ridge are also of brick. The suitability of the flagged roofs to the heavy type of timber frame is well shown from the example of Eardisley, Herefordshire. Generally, the colour scheme of such cottages is black and white—hence the name "magpie." Occasionally other surface colour is used for the infilling between the timbers, as at Orleton cottages. Here an orange-buff colour is employed. This cottage is thatched, but the adjoining shed is flagged, and has been patched with tiles, resulting, however, in a colour effect entirely satisfactory.

A delightful idea of the general appearance of a Herefordshire village is given in the view of Cradley, lying below the western slope of the Malvern Hills. No composition could be more perfect. Such views give us, as Pater said, an indescribable sense of well-being, breathing a welcome and the very spirit of home.

Interesting Herefordshire examples also occur at Pembridge and at Weobley. The sad plight of Weobley can probably be accounted for by the fact that the village was a decaying one, containing quite a collection of timber houses. They were mostly owned by their occupants, who could not afford to keep them in repair. Weobley once returned two members to Parliament, and it is recorded that previous to the Reform Bill the Marquess of Bath, who owned the whole place, allowed the tenants to live rent-free as the price of their vote to his nominee. If this is true, Weobley, when it lost its representation, lost the reason for the landlord forgoing his rents. Even so, he could not collect them, the inhabitants having lived rent-free for so long; but the tragedy, which has a distinct social significance, is that the houses had fallen into such a state of disrepair as to be scarcely habitable; then the cottage owners began to miss the presence of the landlord and his agent, who normally would have kept them in reasonable repair. The cottages known as "The Rows," previously mentioned, belong to the fifteenth century, but were rather spoilt in the middle of the last century;

COTTAGE GABLE AT ALDERLEY EDGE, CHESHIRE.

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although the effect of thatch and plain tiles can be well seen from Bromfield and Worfield respectively, both Shropshire examples.

At Alderley Edge, in Cheshire, is a magnificent example of the more elaborate type—a piece of work beautiful in composition and delightful in proportion. Again, at Alderley Edge is another type of the more simple timber-frame construction; both are typical of the North-Western style prevailing to-day in many examples of traditional half timber work.

Turning to the counties South-East of the oolite belt, although it would be fair to say that the prevailing type of cottage construction is of timber frame, yet there are interesting exceptions which should be glanced at before referring to the true normal type. These were produced probably as a result of the large amount of flint found in the chalk which runs parallel with the oolite belt, and which also occurs in comparatively narrow belts from Hampshire to the East coast of Kent and on the Sussex coast surrounding Beachy Head. In Norfolk and in the North-West corner of Suffolk, we get a distinctive traditional use of flint and brick in cottage building. The cottages have steep roofs and are covered with pan-tiles, either glazed or unglazed, of a brownish-black colour, or are thatched with straw and reed. The gables are shaped or crow-stepped, and ornamental wrought iron wall ties are used, frequently in the form of initials and dates on the surface of the walling.

At Trunch is a good example of a very simple flint and brick, reed-thatched cottage, with decorative chimneys; while at Wiggenhall St. Germans, Norfolk, is a remarkably interesting type with stepped gables and a steep pan-tile covered roof, obviously showing the influence of the Low Countries. In the most eastern parts of Kent, a similar type of building prevails, showing a very distinctive tradition, with influences not entirely local or national.

In the South of Wiltshire, cottages are constructed with walls of a mixture of flint, brick and lumps of stone. Others have an infilling between timbers of alternative layers of flint and brick. Again, we find walls built with a filling of flint and hard chalk, a type found in Surrey and other parts of a like geological formation. Flint again is used to a very considerable extent in the cottages of the Chilterns, with a patterning introduced, giving distinctive features to the traditional style. In the Northern and Western parts of East Anglia cottages were sometimes built of "clay-lump," and for the full thicknesses of walls. Often the clay-lump has been faced in modern times, and in isolated districts of Surrey and Kent stone was sometimes used.

If we revert to the more normal timber-framed cottage construction, we find that in East Anglia the spaces between the timbers are frequently filled with a mixture of clay and chopped straw, reinforced with hazel sticks, or clay is squeezed between hazel sticks and surface plastered. It is sometimes contended that very little brick-nogging was originally used. Certainly, authentic examples of the treatment appear to exist, but it is considered to be generally a later treatment. Tile-hanging from a wall surface is practically unknown north of Chelmsford. This is also true of weather-boarding, so far as cottages are concerned, although riverside mills are frequently weather-boarded in a number of counties, where the traditional method of building is shown to be quite otherwise. In Suffolk, and more particularly in Essex, timber-frame construction has often been protected by "pargetting" at a later period as a protection from the weather. The parge consisted of a mixture of lime, sand, cow-dung, road-sweepings and hair, and is often applied in a most ornamental manner.

The example of the cottage at Clare, Suffolk, is a good one, as here we can fix its date somewhere about 1473, although the parge itself belongs to the seventeenth century.

At Kersey, near Hadleigh, Suffolk, are some delightful cottages typical of this district. They were probably built for Flemish and Dutch weavers, and may have served originally for more important purposes. They belong to the late sixteenth century, and the spaces between the upper windows (which would appear to have been altered) and those on the ground floor of the bays are parged. It will be noticed that in the gables or dormers is some curiously worked coloured, lozenged patterning. The whole village of Kersey is quite sufficiently beautiful to be a show-place of England. In some ways this is a protection; it is less open to spoliation, but it may be seriously affected by the proposals of well-wishers who are uninstructed in the method of preserving such a priceless heritage.

At Margaretting, in Essex, a great loss has been suffered from alterations of the original cottages. The view of the cottages and a shop illustrates the alterations that have occurred, and the heaviness of the loss.

At Cockfield, Suffolk, is a beautiful specimen of a half-timbered composition with diagonal brick-nogging, perfectly simple in design, with its clustered flues and undulating roof—a peculiarly satisfactory type.

At Cavendish and Worlingworth are examples of group timber-framed cottage buildings, with plaster and thatch, where the whole principle of village planning is well brought out.

In Essex, at Little Dunmow, we see a group of half timber and plaster thatched cottages, partially weather-boarded, which is an unusual feature in East Anglia. Here is an example of the most delightful groups of cottages which can be seen. The great area of roof, and the advanced gables, combine to form a model of architecture for housing the people.

At Gosfield, near Halstead, is another example of the timber-frame construction, partially exposed, with a beautiful ornate and elaborate chimney.

Although weather-boarding is scarce in the case of cottages, it is often used for other buildings, an example of this being the windmill adjacent to a group of cottages at Finchinfield, Essex.

There is the special problem, not only of the preservation of the individual cottage or group of cottages, but of the complete small hamlet and township. Here group effect is all-important; the complete picture is even of more consequence than the individual fragment. In certain of our towns this group design is rapidly disappearing; witness the case of Edgware, where the character of the village has been entirely altered within recent years. Almost the only hope for our group village and township architecture is when it is out of the way from the main traffic stream, as in the case of St. Albans, Fishpool Street, where the total composition would be ruined by any alteration of any of its various parts.

To illustrate again the complete composition of a village we have the quite late example of Castle Street, Farnham, Surrey, where a number of cottages of eighteenth century date are almost as complete and perfect a picture as many of earlier composition.

In the case of Steyning, Sussex, we have as satisfying a composition of a village of an earlier date as we could demand.

We have a great responsibility towards these group cottages, while many a Georgian town and village calls for a complete control to preserve what is there as a whole, with due relation to the requirements of modern sanitation and hygiene.

If we turn our attention to the South of the Thames, to Surrey, Kent and Sussex, we find they are all generally timber-frame counties, bearing in mind the reservations already made. Formerly the Weald of Kent and Sussex was covered with thick indigenous woodland, but the surface iron smelting industry gradually denuded it of forest, until there was actual shortage of heavy timber, as compared with the North-West Midlands, during the great cottage building period. This is reflected in the framework of the cottages, showing the interest of

traditional building methods, where they illustrate the history of the district in which they are erected. In isolated stone districts, the roofs are sometimes covered with "Horsham slates." These are stone slabs, midway in size between the Cotswold and Shropshire types. There is an excellent example in the half-timbered cottage at Ewhurst, Surrey, with its diagonal brick-nogging and external stair. Latterly, plain tiles are the more usual covering, and frequently form an important feature in the design, as in the delightful half-timbered cottage at Frensham, in Surrey.

From the charming group of cottages at Eashing, Surrey, we see that the traditional method of building produces as beautiful a design at the backs of the cottages as for their fronts. There are no "back additions" here, nor would it appear that any distinction was felt by the craftsman.

Weather-boarding, often covering older buildings, is common in the villages to the South of London. Distinctive examples at our very door are at Cheam, Surrey; and at Hawkhurst, Kent, where partial weather-boarding has been most successfully carried out, though obviously later than the date of the cottages themselves.

Vertical tile-hanging is not so common, but a good example occurs on the hipped gable of a cottage at Goudhurst, Kent, and in a number of other places such as Tenterden, Kent, where the method adopted seems native to type.

At Fittleworth, Sussex, we have an example where the eaves project even over the oriel, and this is one of so large a number of lovely cottages that it is difficult to select sufficiently representative examples to show the nature of the appeal made to a knowledgeable sympathy and understanding which will preserve such distinctive work.

I give two examples from Kent, one at Swanton Street, and one at Horsmonden; the first of peculiarly fine quality, and the second in its simplicity of distinctive merit; at Byworth, Sussex, is an example much more modest in scale, thoroughly typical of this district.

At Hardham, Sussex, the one example given is a complete picture in itself. The steeply thatched roof, the small dormers, the association of half-timber with the window and door spaces, all show how rich this country is in work of the very highest standard; the type at West Burton, Sussex, is particularly simple and homely.

In the counties further West the timber-frame cottages are very similar to those I have reviewed. The old house on the Bath Road at Woolhampton, Berkshire, represents a traditional method of building, very similar to that of Kent and Sussex.

In the comparatively small county of Dorset are three distinctive styles such as we see at Corfe, Studland, and Blandford St. Mary.

In North Wiltshire we strike a rapid change from the traditional Cotswold style to timber-frame construction, and to the North of Salisbury Plain there are to-day scores of villages containing examples of the latter type which are for the most part heavily thatched, such as at Enford, and Marlborough, with its delightful street composition.

At Bottlesford and at Ogborne St. Andrew, we have two beautiful examples, the former gaining if anything from the juxtaposition of the lamentable modern building behind it.

At Manningford Bruce and Rushall, Wiltshire, we have isolated and eminently typical examples, while at Pewsey is a happy composition of brick and plaster occurring in natural conjunction with thatch.

In portions of South Wiltshire and parts of Devon, where the geological formation is favourable, much of the cottage walling is built of "cob." This consists of chalk or loam, or whatever suitable earthy material is found on the site, mixed well with straw, firmly rammed into position, and cut to a vertical face with a spade. Often such "cob" walling is plastered on the external face. Again, rough stone, usually plastered, or lime-washed, is used in Devon, as at Uplyme, where an agreeably picturesque group can be seen.

In the extreme West practically all the cottages are built of granite or of slate. They are characteristic of the wildness of this wild coast, and when untouched by the modern builder's methods, fit in quietly with the multi-coloured granites and ironstone cliffs.

A beautiful example of a complete village street can be seen at Looe, but to the right of the view will be seen the intervention of the graceless modern building.

The cottages of St. Ives give a typical picture of a West Country street. Large external chimneys are often a feature, and the intractable nature of the material—granite—is overcome by the adequate and capable methods of the local stone-waller.

In Somerset, such great chimneys are often finished with circular shafts, giving a very distinctive character to the work of the district.

In the North, where unhappily so little really good traditional cottage work remains, severity is also the key-note as in the extreme West. Here the chimneys nestle to the roofs, the windows and doors are small, a tribute to the climate. In

COTTAGE AT SELWORTHY.

From a photograph by Frith & Co. Ltd., Reigate.

Lancashire the external staircase is occasionally met with, and the cylindrical chimney. In Northumberland are ranges of old dwellings apparently of stone and brick with "tumbled in" brick gables of flat pitch, covered with stone slabs, a very typical method, which can be seen at Hexham.

At Bishop's Middleham, Durham, we see a row of cottages of stone and brick rough-cast covered with pan-tiles, again directly reflecting the extremity of climate, and yet presenting a sufficing and adequate design.

In the majority of old cottages still remaining up and down the country, the material comprising the shell is often equal, if not superior, to that employed in modern dwellings. Alteration may be called for, but repair would not be difficult. Only in extreme cases is the charge likely to be more than that for entirely new cottages. The purely technical and physical problem of repair can always be dealt with by an architect adequately equipped and with the requisite sympathy to devise means. In many cases the repair and preservation is likely to prove reasonably economic; this has been well illustrated by a case described in "Country Life," in which Mr. Avray Tipping was interested.

Where the movement for preservation is directed and made effective, demolition would not be permitted. It might even be possible to attempt a re-creation of the original village craft spirit and method, whereby local craftsmen added to, patched and repaired with local materials the village cottages. Where, however, the decay has gone so far that neglect would appear to involve demolition, the cost of repair will be greater, and might indeed be held to be in excess of the value of the property. Merely economic values, however, have no true relation here, but the assistance of a strong, even national effort, is certainly called for.

Examples such as that shown of Nunney, Somerset, would involve heavy expenditure. They are well worth such expenditure, and it should be the object of any movement to see that their neglected condition does not involve their final loss. All that appears to be called for is a unification of every effort of those who are profoundly concerned with the distinctive possession of this country in its cottage architecture. Direction and financial assistance would seem to be the immediate need, and it is my privilege to be able to say that the Royal Society of Arts has undertaken to initiate and endeavour to organise a movement, directed towards the final preservation of the cottage architecture of this country. With the great traditions behind this Society, and its magnificent record of work accomplished, it should succeed where others have failed; it will, I feel sure, collect together a band of enthusiasts whose interest in the

problem must produce outstanding results of vital and permanent benefit to our country.

The first essentials are sympathy and enthusiasm; knowledge and eager assistance; financial and otherwise. They are all available; they are waiting to be called into action; and the Council of this Society will call to a conference all those anxious to help, and devise a scheme to accomplish our aims.

I do not propose to attempt to outline specific proposals. The conference will be charged with that important function, and will be much more competent than I am to discharge it. My aim this evening is to lay bare the issue and to seek to gain your interest and support by a review—incomplete and imperfect—of the causes which produced English mediæval cottage architecture and a craftsmanship of eternal freshness and capacity; which, interacting by change with social conditions, is a vital part of our national past. Much of the charm and picturesque beauty of such cottages as we have seen and clearly perceive to-day, is sometimes held to be illusory; for when we grudge the loss of what is alleged to have been an ancient earthly paradise, we may be ignorantly reflecting upon conditions which were crying for amendment and alteration. This pessimistic view would find most things illusory; yet it will be useful if only it prevents us regarding our subject merely sentimentally. Sentiment is said to be a fog about the feet of truth; but no one can deny the validity of true sentiment, and not only for æsthetic reasons, but for historic and sociological reasons, have we a right to demand an interest in these records of the society from which we spring. It is a national duty to preserve such records, beautiful in themselves, of a culture entirely our own, more especially when they are the authentic and full particulars of our ancient cottage building—a documentation which once destroyed can never be replaced.

There are certain elements of mediæval society which are only clearly brought out in mediæval building, and particularly are the elements of social history brought out by an understanding of the village; its preservation, therefore, is of vital importance, purely as historical fact. It is our scroll of tradition unrolled in "England's green and pleasant land"—a most perfect and orderly record, from which a clear historical synthesis can be obtained, giving a re-orientation in the study of the past, of the lives and social habits of our people; and it constitutes the vital material and spirit of our history.

That any appeal should, in fact, have to be made for the effective preservation of such a record implies an indifference which is a slur upon the national intelligence; for to lack any appreciation of the records of history is to have no past and to deserve no future.

The Memorial to the Prime Minister regarding Waterloo Bridge

To the PRIME MINISTER. *4th June*, 1926.

SIR,

We earnestly press upon you the need for further enquiry into the whole problem of London traffic and bridges, before the fate of Waterloo Bridge is finally determined.

Aitken, Charles (Director, Tate Gallery).
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Ashfield, Lord

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Balfour, Miss Alice
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Bentinck, Lord Henry, M.P.
Binyon, Laurence (Deputy Keeper of Prints and Drawings, British Museum).
Birmingham, The Bishop of
Biron, Sir Chartres
Blanesburgh, Lord
Bone, James
Bone, Muirhead
Brailsford, H. N. (Editor of the "New Leader").
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Bridges, Robert (Poet Laureate).
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Dillon, Viscount
Dodgson, Campbell (Keeper of Prints and Drawings, British Museum).
Drinkwater, John

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Ellis, A. I. (British Museum Reading Room).
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White, H. J. (Dean of Christ Church, Oxford).
Wiltshire Archæological Society.
Witt, Sir Robert

York, Lord Archbishop of

(*Vide* "The Times," June 5th and 15th, 1926.)

The Royal Fine Art Commission

(6, Burlington Gardens, London, W.1.)

President:
The Right Hon. the Earl of Crawford and Balcarres, K.T., P.C., LL.D., F.R.S.

Secretary:
H. Charlton Bradshaw, Esq., A.R.I.B.A.

THE Royal Fine Art Commission was appointed in 1924 "to enquire into such questions of public amenity or artistic importance as may be referred to them from time to time by a Department of State, and to report thereon to such Department; and, furthermore, to give advice on similar questions when so requested by public or quasi-public bodies, where it appears to the said Commission that their assistance would be advantageous."

The Royal Commission for Scotland to enquire into questions of public amenity, etc.

THE King has, on the recommendation of the Secretary of State for Scotland, approved the appointment of a Royal Commission to enquire into such questions of public amenity or of artistic importance relating to Scotland as may be referred to them by any of the Departments of State, and to report thereon to such Department, and to give advice on similar questions when so requested by public or quasi-public bodies, where it appears to the Commission that their assistance would be advantageous.

The Commission will be constituted as follows:—

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Lord Hamilton of Dalzell, K.T., C.V.O., M.C.
Sir John R. Findlay, Bt., K.B.E., F.R.S.E.
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Mr. J. Whitelaw Hamilton, R.S.A., R.S.W.
Mr. J. Pittendrigh Macgillivray, R.S.A., LL.D.

Mr. Stanley Cursiter, O.B.E., Keeper of the National Gallery, Edinburgh, will act as Secretary to the Commission.

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(7, Buckingham Palace Gardens, London, S.W.1.)

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THE Trust was founded in 1895, mainly by the efforts of Miss Octavia Hill, Sir Robert Hunter and Canon Rawnsley. In 1907, it was thought advisable to apply to Parliament for a special Act, by means of which the National Trust should be incorporated and should be empowered to hold its properties without licence in mortmain. The necessary powers were conferred by Parliament, by the National Trust Act, 1907.

THE EXCAVATION OF THE CELLARAGE UNDER THE FRATER AT COCKERSAND ABBEY.

Reproduced by courtesy of the Cockersand Abbey Exploration Committee.

The Central and Diocesan Advisory Committees for the Protection of Churches and their treasures in England

By the Rev. H. A. Hudson, M.A., F.S.A.

BY means of its Advisory Committees an important step has been taken by the Church of England towards conserving the great treasures of art and history contained in her churches. These committees are now set up in nearly every diocese and their work is co-ordinated by a Central Committee in London and a Northern Committee for the province of York, both of which comprise representatives from the Diocesan Committees and include specialists of acknowledged repute in various branches of art and ecclesiology.

Details of the origin and growth of this movement may be studied in two valuable reports of the Central Committee entitled " The Protection of our English Churches," the first of which was published in 1923 (Humphrey Milford, Oxford, 2/-), and the second in 1925 (Press and Publication Board of the Church Assembly, Church House, Westminster, 2/6).

The primary function of the Diocesan Committees, which are appointed by the Bishop with the concurrence of the Chancellor and in some cases also that of the Diocesan Conference, is to assist the Chancellor by advice in matters of art and taste which arise out of applications for faculties for alterations and additions to churches. In addition to this the advice of the Committees is at the disposal of parish authorities in order to assist them in the preliminary stages of proposed schemes. This advice is being increasingly sought, and provision is made when cases of special difficulty and importance arise for referring such cases to the Provincial Council or the Central Committee, which is empowered to call in the assistance of experts who are specially qualified to deal with complicated and technical questions.

Although the movement is of recent growth the work already accomplished, as evidenced by the Reports, is by no means inconsiderable and the progress already made augurs well for the future.

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Hon. Secretary:

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Chairman:

(Vacant.)

Hon. Secretary:

Rev. C. V. Collier, Langton Rectory, Malton, Yorks.

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(20, Buckingham Street, Adelphi, London, W.C.2.)

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Secretary:

A. R. Powys, Esq., A.R.I.B.A., 20, Buckingham Street, Adelphi, London, W.C.2.

Hon. Treasurer:

A. J. Jacob, Esq., 449, Strand, London, W.C.2.

THIS Society was founded in 1877, by William Morris, Philip Webb, John Ruskin and Sir Edward Burne-Jones, owing to the wholesale destruction of buildings then taking place by "restoration." In the *Athenæum* Morris wrote:—"What I wish for, therefore, is that an association should be set on foot to keep a watch on old monuments, to protest against all 'restoration' that means more than keeping out wind and weather, and, by all means, literary and other, to awaken a feeling that our ancient buildings are not mere ecclesiastical toys, but sacred monuments of the nation's growth and hope." After the formation of the Society, Morris was for a short time its first Hon. Secretary. Owing to the Society's denunciation of the injurious practice of scraping lime-wash off stonework and so destroying its surface, it became popularly known by its members as the "Anti-Scrape." The Society has been accustomed to retain an Architect, whom it could recommend for the reparation of ancient buildings. Both Mr. Lethaby and Mr. William Weir have held this office.

The Ancient Monuments Society

President:

The Right Honourable the Earl of Crawford and Balcarres, K.T., D.C.L., LL.D., P.S.A., F.R.S., F.R.I.B.A.

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W. A. Pantin, Esq., B.A., The University, Manchester.

Hon. Reporting Architect:

John Swarbrick, Esq., F.R.I.B.A., 30, St. Ann Street, Manchester.

THE Ancient Monuments Society was formed in 1924, owing to the inability of kindred existing societies in London and the provinces to prevent the systematic demolition of ancient and historic buildings in the northern part of England and in Wales. The Executive Committee of the Society has been exceedingly active, both in connection with its efforts to save old buildings from destruction and in the task of preventing ancient structures from being mutilated and depreciated by injudicious and ill-advised reparation. In this work, the Committee has always had the assistance of the Hon. Reporting Architect, Mr. John Swarbrick. The Society has been instrumental, by means of its Affiliated Committees and in other ways, in saving a number of ancient historic buildings that would otherwise have been lost, and without which the nation would have been appreciably poorer. The Society has co-operated in the task of raising funds for these and similar objects, and it is prepared so far as it can to give assistance or support to those interested in work of this kind, in the northern counties or midlands of England and in Wales. All reparations of ancient buildings, undertaken by the Hon. Reporting Architect, at the instance of the Society, are carried out in consultation with the Executive Committee and, in the most conservative manner possible, in accordance with the Committee's requirements.

MORETON OLD HALL, near Congleton, Cheshire. The Courtyard.

Reproduced from Nash's "Mansions of England in the Olden Time."

The Council for the Preservation of Rural England

Founded 1927.

(33, Bloomsbury Square, London, W.C.1.)

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The Right Hon. the Earl of Crawford and Balcarres, K.T.

Chairman:
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THE AIMS AND OBJECTS OF THE COUNCIL.

THE Council for the Preservation of Rural England has been formed to co-ordinate the efforts of many national Associations, Institutions and Societies, each of which is interested in preserving rural scenery from some special danger or in protecting the artistic and historic features of country towns and villages. It is not intended to object to the reasonable use and development of rural areas: it is the abuse and bad development of such areas that require restrictions.

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(D) *Preservation does not necessarily mean the use of chemical substances, and frequently the work in hand does not require them.*

(E) *Certain conditions in regard to decayed stone or brick do not lend themselves to treatment with solutions. To use them would be courting a loss of material and time—* A LOSS OF MONEY.

(F) *The architect should* KNOW ABSOLUTELY *the* TRUE *nature and composition of the materials used on his works.*

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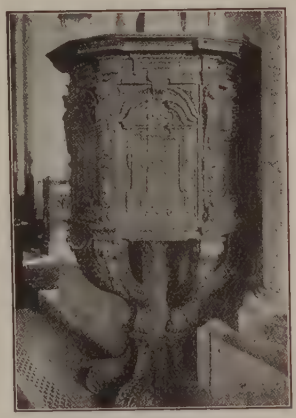

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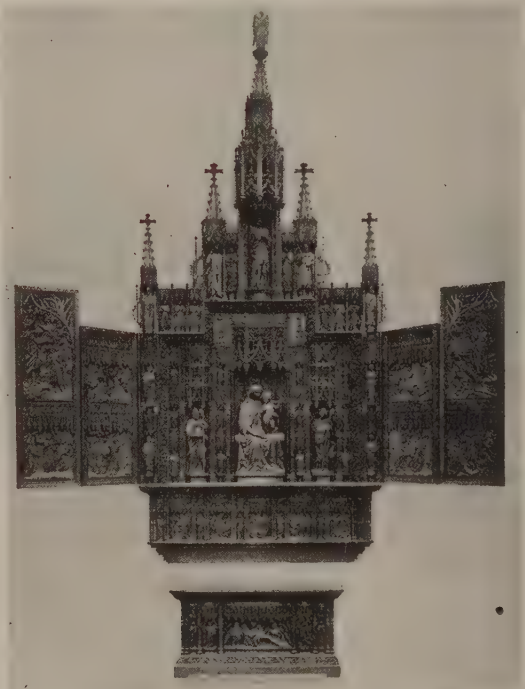

Oak Reredos, Jesus Chapel, Worcester Cathedral. Architect: R. A. Briggs, Esq.

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Part II

Particulars relating to Ancient Monuments in England, Wales, Scotland and Ireland, protected by legislation, and to the work of the Ancient Monuments Boards, the Royal Commissions on Ancient and Historic Monuments and Constructions, etc.

Lists of Societies and Organisations in all parts of the United Kingdom and Ireland, interested in the study and conservation of Ancient Monuments and Historic Buildings.

H.M. Office of Works, etc.

DEPARTMENT OF ANCIENT MONUMENTS AND HISTORIC BUILDINGS.

Ancient monuments and historic buildings are dealt with through the general organisation of the Office of Works. On such matters the Department is advised by its Inspectors of Ancient Monuments. The Chief Inspector is Mr. C. R. Peers, C.B.E., M.A., Dir. S.A., F.B.A., and under him there is an Inspector for England, another for Scotland and another for Wales. The technical work of repairing, etc., ancient monuments and historic buildings is entrusted to certain members of the Department's architectural staff.

THE ANCIENT MONUMENTS BOARDS.

The Ancient Monuments Boards are advisory bodies set up under Section 15 of the Ancient Monuments Act of 1913. The chief work of the Boards is to recommend monuments for scheduling under Section 12 of the Act; but they are also empowered, under Part III of the Act, to report to the Commissioners of Works, for such action as the Commissioners may see fit to take, any case of a monument which appears to be in

danger of destruction or removal or damage from neglect or injudicious treatment; and generally they may advise the Commissioners on any matter affecting ancient monuments or historic buildings. The Chairman of the English Board is Sir Lionel Earle, K.C.B., K.C.V.O., C.M.G., the permanent Head of this Department; the Chairman of the Scottish Board is Sir John Stirling Maxwell, Bart., LL.D., F.S.A., and the Chairman of the Welsh Board is Sir Vincent Evans, C.H.

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Willoughby Gardner, Esq., F.S.A., F.L.S., D.Sc. Hon.
The Rev. G. Hartwell Jones, M.A., D.D., D.Litt., representing the Royal Commission on Ancient and Historical Buildings in Wales and Monmouthshire.
J. E. Lloyd, Esq., M.A., D.Litt., F.S.A., Professor of History at the University College of North Wales, Bangor.

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The Secretary to the Board is W. J. HEMP, Esq., F.S.A., Inspector of Ancient Monuments for Wales.

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J. S. RICHARDSON, Esq., F.S.A., Scot. *(Secretary).*

List of Buildings in England and Wales transferred to the control of H.M. Commissioners of Works under the provisions of the Ancient Monuments (Consolidation) Act, 1913

Compiled by Sir FRANK BAINES, C.V.O., C.B.E., F.R.I.B.A.

ENGLAND.

Abbot's Fish House, Somersetshire.
Arbor Low Stone Circle, Derbyshire.
Arthur's Round Table, Penrith, Cumberland.
Arthur's Stone, Dorstone, Herefordshire.
Buildwas Abbey, Shropshire.
Byland Abbey, Yorkshire.
Brough Castle, Westmorland.
Castle-rigg Stone Circle, near Keswick, Cumberland.
Clifford's Tower, York Castle.
Edwardian Town Walls (part of), Berwick-on-Tweed.
Egglestone Abbey, Yorkshire.
Eleanor Cross, Geddington, Northamptonshire.
Eyam Moor Tumulus and Circle, Derbyshire.

LIST OF BUILDINGS TRANSFERRED—*continued.*

Farleigh Castle, Somersetshire.
Finchale Abbey, Durham.
Framlingham Castle, Suffolk.
Furness Abbey, Lancashire.
Goodrich Castle.
Gib Hill Tumulus, Derbyshire.
Hermitage, Warkworth (see also Warkworth Castle), Northumberland.
Helmsley Castle, Yorkshire.
Hob Hurst's House, West Moor, Derbyshire.
Jewry Wall, Leicester.
Kingston Russell Stone Circle, Dorsetshire.
Kirby Muxloe Castle, Leicestershire.
Kit's Coty House, Aylesford, Kent.
Little Coty House, Aylesford, Kent.
Langley Chapel, Shropshire.
Maiden Castle, Dorset.
Mayborough, Penrith.
Mattersey Priory, Nottinghamshire.
Mitchells Fold, Shropshire.
Middleham Castle, Yorkshire.
Netley Abbey, Hampshire.
Norham Castle, Northumberland.
Nunney Castle, Somersetshire.
Nine Stones, Winterborne Abbas, Dorsetshire.
Old Sarum, Wiltshire.
Penrith Castle, Cumberland.
Pevensey Castle, Sussex.
Pickering Castle, Yorkshire.
Portchester Castle, Hants.
Rievaulx Abbey, Yorkshire.
Richborough Castle, Kent.
Richmond Castle, Yorkshire.
Reculver Towers, Kent.
Roche Abbey, Yorkshire.
Rollright Stones, Oxfordshire.
Restormel Castle, Cornwall.
Roman Road, Goathland, Yorkshire.
Roman Villa, Witcombe, Gloucestershire.
Skipsea Brough, Yorkshire (part only).
Silbury Hill, Wiltshire.
Spofforth Castle, Yorkshire.
Stanton Drew Stone Circles, Somersetshire.
Stanton Drew Standing Stones, Somersetshire.
Stanton Moor Stone Circle, known as the "Nine Ladies," Derbyshire.
Stonehenge, Wiltshire.
Stoney Littleton Tumulus, Somersetshire.
St. Augustine's Cross, Minster, Kent.
St. Botolph's Priory, Essex.
St. Catherine's Chapel.
St. Olave's Priory.
Titchfield Abbey, Hampshire.
Uley Tumulus, Gloucestershire.
Warkworth Castle, Northumberland.
Wayland's Smithy, Berkshire.
West Kennet Long Barrow, Wilts.
Whitby Abbey, Yorkshire.
Winterborne Abbas (see Nine Stones), Dorsetshire.

WALES.

Basingwerk Abbey, Flintshire.
Beaumaris Castle, Anglesey.
Bryn Celli Ddu Dolmen, Anglesey.
Bodowyr Dolmen, Anglesey.
Caerwent Roman Walls, Monmouth.
Caer Leb, Anglesey.
Castell Bryn Gwyn, Anglesey.
Caer-y-Twr, Holyhead Mountain, Anglesey.
Capel Garmon Dolmen, Denbigh.
Carnarvon Town Walls (part of), Carnarvon.
Din Dryfol Dolmen, Anglesey.
Ewloe Castle, Flintshire.
Flint Castle, Flintshire.
Grosmont Castle, Monmouthshire.
Holyhead Mountain Hut Circles, Anglesey.
Lamphey Palace, Pembrokeshire.
Lligwy Dolmen, Anglesey.
Maen Achwyfan, Whitford, Flint.
Margam and Kenfig Stones, Glam.
Pentre Evan Dolmen, Pembroke.
Penrhos Feilw Stones, Anglesey.
Presaddfed Dolmens, Anglesey.
Trefignath Dolmen, Anglesey.
Tregwehelydd Stones, Anglesey.
Ty Newydd Dolmen, Anglesey.
Weobley Castle, Glamorganshire.
White Castle, Monmouthshire.

List of Buildings in Scotland transferred to the control of H.M. Commissioners of Works under the provisions of the Ancient Monuments (Consolidation) Act, 1913

Compiled by Sir FRANK BAINES, C.V.O., C.B.E., F.R.I.B.A.

SCOTLAND.

The British Forts on the hills called "The Black and White Caterthuns," Forfarshire.
The Pictish Towers at Gleneig, Inverness-shire.
The Stones of Callernish, Ross-shire.
The Pictish Tower at Mousa, Shetland.
The Inscribed Slab formerly standing on the roadside leading from Wigtown to Whithorn, but now in Whithorn Priory, Wigtownshire.
The Circular Walled Structures called "Edin's Hall" on Cockburn Law, Berwickshire.
The Ancient Runic Cross at Ruthwell, Dumfriesshire.
The Pictish Tower at Carloway, Ross-shire.
The Pillars at Kirkmadrine, Wigtownshire.
Two Stones with incised crosses on a mound in a field at Laggangairn, Wigtownshire.
St. Ninian's Cave, Whithorn, Wigtownshire.
The Burg of Clickamin, Shetland.
Semi-circular Earthwork, Barsalloch, Wigtownshire.
The Moat Hill of Druchtag, Mochrum, Wigtownshire.
Cup-marked Rock and three Standing Stones, Drumtroddan, Wigtownshire.
The ancient Chapel of Whithorn, Wigtownshire.
The Sculptured Stones in Dyce Churchyard, Aberdeenshire.
The Sculptured Stones at Eassie, Forfarshire.
Standing Stone at Blairbowie known as the "Wren's Egg," Glasserton, Wigtownshire.
Rectangular Camp at Rispain near Whithorn, Wigtownshire.
Sculptured Stones at Whithorn Priory, Wigtownshire.
Arbroath: The Abbot's House, The Abbey Pend, The Regality Tower, etc., Forfarshire.
The Ring of Brogar and other Stone Pillars at Stennis, in Orkney, and the neighbouring pillars, Orkney.
Egilsay Church, Orkney.
Mar's Wark, Stirling, Stirlingshire.
Kinkell Church, Aberdeenshire.
The Earth-house known as the Gallery Grave at Grain, Kirkwall, Orkney.
Scalloway Castle, Shetland.
Cambuskenneth Abbey, Stirlingshire.
Whithorn Priory Church, Wigtownshire.
Newark Castle, Port Glasgow.
Noltland Castle, Westray, Orkney.
The Ruined Transepts of old Machar Cathedral, Aberdeen, Aberdeenshire.
Blackfriars Church, St. Andrews, Fife.
St. Martin's Church, Haddington, East Lothian.
The Dwarfie Stone, Hoy, Orkney.
Eynhallow Church, Orkney.
The Chambered Mound of Maeshowe, Orkney.
Pierowall Church, Westray, Orkney.
The Old Bridge, Stirling, Stirlingshire.
MacLellan's Castle, Kirkcudbright, Kirkcudbrightshire.
The Bishop's Palace, Kirkwall, Orkney.
The Earl's Palace, Kirkwall, Orkney.
Old Church on west side, Westray, Orkney.
Huntingtower, Perth, Perthshire.

LIST OF BUILDINGS TRANSFERRED—*continued.*

Orchardton Tower, Kirkcudbright, Kirkcudbrightshire.
Rodel Priory Church, Ross-shire.
Merkland Cross, Dumfriesshire.
Tombstones of Fair Helen and Adam Fleming and Cross, Dumfriesshire.
Crossraguel Abbey, Ayrshire.
Culross Abbey, Fifeshire.
Sculptured Stones at Aberlemno, Forfarshire.
Affleck Castle, Forfarshire.
Urquart Castle, Inverness-shire.
Carsluith Castle, Kirkcudbrightshire.
Threave Castle, Kirkcudbrightshire.
The Eagle Rock, Cramond, Linlithgowshire.
Jedburgh Abbey, Roxburghshire.
Dunglass Chapel, Haddingtonshire.
Burleigh Castle, Kinross-shire.
The Sculptured Stone in Aberlemno Churchyard, Forfarshire.
Dryburgh Abbey, Berwick (presented), Berwickshire.
Melrose Abbey, Roxburgh (presented), Roxburghshire.
Kelso Abbey, Roxburghshire.
Restenneth Priory, Forfarshire.
The Dogton Stone, Fifeshire.
Lincluden College, Kirkcudbrightshire.
Huntly Castle, Aberdeenshire.
Sueno's Stone, Forres, Elgin.
Monreith Sculptured Cross, Wigtownshire.
Dirleton Castle, East Lothian.
Tantallon Castle, East Lothian.
Inchcolm Abbey, Fifeshire.
Barochan Cross, Houston, Renfrewshire.
Ancient Dwellings at Skara, Sandwick, Orkney.
Crichton Castle, Midlothian.
Crosskirk, Peebles, Peeblesshire.
Inchmahome Priory, Stirlingshire.
Inchkenneth Priory, Isle of Mull.
Clava Cairns, Inverness-shire.
Hailes Castle, Haddingtonshire.
Cardoness Castle, Kirkcudbrightshire.
*Sweetheart Abbey, Kirkcudbrightshire.
Claypotts Castle, Forfarshire.
Duffus Castle and Kirk, Murrayshire.
Arlshay, Shetland.

*Buildings offered to the Department, but the transfer not completed.

List of the more important historic Crown Buildings administered and maintained by H.M. Office of Works

Compiled by Sir FRANK BAINES, C.V.O., C.B.E., F.R.I.B.A.

SCHEDULE OF OCCUPIED BUILDINGS IN THE LONDON AREA.

Somerset House.
Chelsea Hospital.
Chapter House, Westminster Abbey.
Windsor Castle.
Hampton Court Palace.
Kensington Palace.
St. James's Palace.
Westminster Hall.
Tower of London.
Kew Palace.
Royal Naval College, Greenwich.

SCHEDULE OF BUILDINGS IN ENGLAND AND WALES.

Carnarvon Castle.
Carisbrooke Castle.
*Carlisle Castle (occupied by the War Department).
Chester Castle.
Dartmouth Castle.
Deal Castle.
Denbigh Castle.
*Dover Castle (occupied by the War Department).
Fowey Castle.
Harlech Castle.

*In these cases there is duality of control, the War Department being entirely responsible for modern structures, while H.M. Office of Works maintains the historic buildings only.

LIST OF HISTORIC CROWN BUILDINGS—*continued.*

Lindisfarne Priory.
Ludgershall Castle.
Monmouth Castle.
Pendennis Castle.
Portland Castle.
St. Mawes Castle.
Scarborough Castle.
Tintern Abbey.
Tynemouth Priory.
Walmer Castle.
Yarmouth Castle.

SCHEDULE OF BUILDINGS IN SCOTLAND.

Arbroath Abbey.
Berwick-on-Tweed Ramparts.
Blackness Castle.
Brechin—Maison Dieu Chapel.
Brechin Round Tower.
Broughty Castle.
Beauly Priory.
Dumbarton Castle.
Dunblane Cathedral.
Dunfermline Abbey.
Dunfermline Palace, South Port.
Dundrennan Abbey.
Dunkeld Cathedral.
Edinburgh Castle.
Elgin Cathedral.
Fortrose Cathedral.
Glasgow Cathedral.
Haddington Church (St. Mary's Church).
Holyrood Palace.
King's Knot, Stirling.
Kirkhill Culdee Chapel, St. Andrews.
Linlithgow Palace.
St. Andrews Castle.
St. Andrews Cathedral.
Stirling Castle.
Stirling, Argyle's Lodging.
Stirling, Bothwell's House.

List of County Ancient Monuments Committees and Hon. Correspondents in England and Wales appointed by the Ancient Monuments Boards of England or Wales, to assist the Staff of the Department of Ancient Monuments and Historic Buildings.

OWING to the present Ancient Monuments Act having been passed as late as 1913, shortly before the war, and the necessity for subsequent economy, voluntary co-operation with the Ancient Monuments Department became necessary, in order to ensure progress. Many of the most important buildings and earthworks had already been recorded and termed "Scheduled Monuments," but it had been found impossible, with the small staff of the Department of Ancient Monuments and Historic Buildings, to obtain the necessary particulars for carrying out the scheduling of the large numbers of prehistoric examples, such as tumuli, earthworks, stone circles, etc., with which the country abounds, and which are peculiarly liable to destruction. In addition to these, there are the numerous later monuments such as the smaller castles, the ruins of ecclesiastical buildings, bridges, town walls, crosses, etc.

In order, therefore, to obtain the particulars of such monuments, so that each case could be submitted to the particular Ancient Monuments Board concerned, and, if approved, placed under the protection of the Act, an

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B.E., by courtesy of the Delegates of the Clarendon Press and the Editor.

endeavour was made to form a system of voluntary local correspondents throughout the whole of the country. In England responsible antiquaries were encouraged to form small County Committees, each with a corresponding member known as the Chief Correspondent. In each case, when that has been done, an attempt has been made to divide the county into districts, each in charge of a local correspondent. The area of these districts was made as small as possible, but the number of the districts was in practice determined by the number of persons available to supervise them. The duties of the local correspondents are :—

1. To obtain the particulars required of all monuments in their districts considered worthy of scheduling and forward them on the printed forms to the Chief Correspondent.
2. To mark the site and, if possible, the boundaries of each monument on the 6 in. Ordnance Survey sheets and forward them, with the completed forms, to the Chief Correspondent.
3. To report at once to the Chief Correspondent if any monument was being interfered with or damaged, or of any proposed scheme, etc., that might be detrimental to a monument. (Correspondents were also invited to divide their districts into parishes, and ask some responsible person in each parish to watch the monuments in his vicinity.)
4. To notify the Chief Correspondent of change of ownership of a monument.

The Chief Correspondent has, either personally or with the assistance of the County Committee, checked the material forwarded to him by the local correspondents, and sent to the Department of Ancient Monuments everything that he has considered advisable. In connection with this work efforts have been made in some cases to deal with cases of damage, destruction or neglect of monuments by bringing the pressure of local public opinion to bear upon the owners before referring the matter to the Department.

A key to the 6 in. Ordnance sheets for each county has been supplied by the Department to the respective Chief Correspondent, who has been supplied with individual sheets in duplicate as he has required them. One copy of each sheet when marked has been retained by him, in accordance with instructions, together with a copy of the completed form, duplicates having been forwarded to headquarters. In this way each Chief Correspondent and the Department of Ancient Monuments have been in possession of the same information concerning each monument. Instructions were further given to the effect that the monuments should be numbered consecutively by counties, the number of each monument being given both on the 6 in. Ordnance Survey sheet and on the printed form. This has been done by the Chief Correspondent in each case, so as to avoid the danger of the repetition of numbers.

Monuments have been given individual names, where they do not possess them, except that in the case of groups of tumuli, the group has been given a title and each individual tumulus a number so as to facilitate reference departmentally.

It was proposed to schedule all prehistoric monuments, but those of later date have been very carefully selected and nothing included that was not of sufficient importance to justify action being taken.

When possible photographs, sketches, plans, etc., of the monuments should be forwarded with the completed forms and Ordnance sheets.

Maps and forms have been supplied by the Commissioners for the use of correspondents, who have all acted in a purely honorary capacity. The Ancient Monuments Department has been fortunate in securing so much voluntary assistance for their staff without any expenditure by the State. The remarkable devotion of many of the correspondents cannot well be adequately acknowledged. In some English counties such committees have not been formed, and the work of scheduling has been done by a few local correspondents in direct communication with the Board.

LISTS OF SCHEDULED ANCIENT MONUMENTS IN ENGLAND, SCOTLAND AND WALES, PUBLISHED BY ORDER OF THE COMMISSIONERS OF H.M. WORKS.

First List, to 31st October, 1921. (Out of print.)
Second List, to 31st March, 1923. (Out of print.)
Third List, to 31st December, 1923. (Out of print.)
Fourth List, to 30th June, 1924. (Out of print.)
Fifth List, to 31st March, 1925.
Sixth List, to 31st December, 1925.
Seventh List, published in May, 1927.

LIST OF CHIEF CORRESPONDENTS OF THE ANCIENT MONUMENTS BOARD (ENGLAND).

Bedfordshire.
Berkshire.
Buckinghamshire.
Cambridgeshire.
(Particulars not available.)

Cheshire.
R. Hyde Linaker, Esq., F.S.A., "Rock Cottage," Chapel Lane, Frodsham.

Cornwall. (Particulars not available.)

Cumberland.
J. H. Martindale, Esq., F.R.I.B.A., Eaglesfield Abbey Rooms, Castle Street, Carlisle.

Derbyshire.
Thomas L. Tudor, Esq., 80, Osmaston Road, Derby.

Devonshire.
Dorsetshire.
(Particulars not available.)

Durham.
W. T. Jones, Esq., F.S.A., F.R.I.B.A., 7a, North Bailey, Durham.

Essex.
Gloucestershire.
Hampshire.
Herefordshire.
Huntingdonshire.
Kent.
(Particulars not available.)

Lancashire.
F. H. Cheetham, Esq., F.S.A., 47, Walnut Street, Southport.

Leicestershire.
W. Keay, Esq., Millstone Lane, Leicester.

Lincolnshire.
Norfolkshire.
Northamptonshire.
(Particulars not available.)

Northumberland.
Parker Brewis, Esq., Glenbrae, Jesmond Park West, Newcastle-on-Tyne.

Nottinghamshire.
Oxfordshire.
Rutlandshire.
Somersetshire.
Shropshire.
(Particulars not available.)

Staffordshire.
S. A. H. Burne, Esq., Hill Crest, Cheadle, Stoke-on-Trent, Staffs.

Surrey.
Sussex.
(Particulars not available.)

LIST OF CHIEF CORRESPONDENTS—*continued.*

Warwickshire.

PHILIP B. CHATWIN, Esq., F.S.A., F.R.I.B.A., 22, Church Street, Birmingham.

Westmorland.

Sir S. H. SCOTT, Bart., F.S.A., "Yews," Windermere.

Worcestershire. (Particulars not available.)

Yorkshire.

E. W. CROSSLEY, Esq., F.S.A., Broad Carr, Holywell Green, Halifax.

NOTE.—A certain number of County Archæological Societies have set up Ancient Monuments Committees, but such bodies are Committees of the Societies and are not organised by the Ancient Monuments Department, which consequently has no direct cognisance of them.

N.B.—Further particulars for the extension or correction of this list should be forwarded to the Editor.

LIST OF LOCAL CORRESPONDENTS OF THE ANCIENT MONUMENTS BOARD (WALES).

NOTE.—There are no County Ancient Monuments Committees in Wales. The work done by such bodies and others in England is entrusted in the Principality to a number of local Correspondents.

Anglesey.

S. J. EVANS, Esq., M.A., County School, Llangefni, Anglesey.
H. O. HUGHES, Esq., J.P., Cefn Mawr, Llangaffo, Anglesey.
HUGH OWEN, Esq., M.A., Llys Caradog, Llangefni, Anglesey.
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Brecknockshire.
Cardiganshire.
Carmarthenshire.
} (Particulars not available.)

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Merionethshire.
Monmouthshire.
Montgomeryshire.
Pembrokeshire.
Radnorshire.
} (Particulars not available.)

List of Monuments in England, Wales and Scotland Scheduled for Protection by H.M. Commissioners of Works in pursuance of Section 12 of the Ancient Monuments Consolidation and Amendment Act, 1913 (3 & 4 Geo. V, ch. 32)

Section 12 of the Act is as follows:

12. (1) The Commissioners of Works shall from time to time cause to be prepared and published a list containing:

(a) such monuments as are reported by the Ancient Monuments Board as being monuments the preservation of which is of national importance; and

(b) such other monuments as the Commissioners think ought to be included in the list;

and the Commissioners shall, when they propose to include a monument in the list, inform the owner of the monument of their intention, and of the penalties which may be incurred by a person guilty of an offence under the next succeeding sub-section.

(2) Where the owner of any ancient monument which is included in any such list of monuments as aforesaid proposes to demolish or remove in whole or in part, structurally alter, or make additions to, the monument, he shall forthwith give notice of his intention to the Commissioners of Works, and shall not, except in the case of urgent necessity, commence any work of demolition, removal, alteration, or addition for a period of one month after having given such notice; and any person guilty of a contravention of or non-compliance with this provision shall be liable on summary conviction to a fine not exceeding one hundred pounds, or to imprisonment for a term not exceeding three months, or to both.

(3) This section shall not apply to any structure which is occupied as a dwelling-house by any person other than a person employed as the caretaker thereof or his family.

ENGLAND.

BEDFORDSHIRE.

Dray's Ditches, Limbury.
Waulud's Bank, Limbury.
Tumuli and hut circles on Zouches Farm, Caddington.
Someries Castle, Stopsley.

BERKSHIRE.

Borson Barrows, Wasing.
Newbury burial mounds or barrows.
Wan's Dyke, Inkpen.
Two tumuli N.W. of Hampstead Marshall Park.
Group of barrows on Inkpen Hill.
Combe Gibbet long barrow.
Walbury Camp, Combe.
Abingdon Bridge, including Burford Bridge and Maud Haile's Bridge.
Ock Bridge, Abingdon.
The County Hall, Abingdon.
New Bridge, Kingston Bagpuize.
Reading Abbey (Remains of Church, Chapter House, Dorter and Rere-dorter, Frater and Gatehouse).
Uffington Castle.
Donnington Castle.
Wayland's Smithy (Wayland Smith's Forge).
Sinodun Hill Camp.

SCHEDULED MONUMENTS—*continued.*

BUCKINGHAMSHIRE.

Thornborough Bridge.
Thornborough Mounds (tumuli).
Ickford Bridge.
Cholesbury Camp.
Bledlow Cross.
The Cop tumulus, Bledlow.
The Mount, Princes Risborough.
Whiteleaf Cross, near Princes Risborough.
Pulpit Hill Camp, Great Kimble.

CAMBRIDGESHIRE.

Belsar's Hill Camp, Willingham.
Brent Ditch, Great Abington.
Car Dyke, Waterbeach.
Cheveley Castle.
Devil's Ditch, Reach to Wood Ditton.
Fleam Dyke, Fulbourn to Balsham.
Mutlow Hill tumulus, Great Wilbraham.
Round Moat, Fowlmere.
Wandlebury Camp, Stapleford.
Copley Hill tumulus, Babraham.
Wormwood Hill tumulus, Stapleford.
Goffers Knoll round barrow, Melbourn.
Grinnell Hill tumulus, Melbourn.
Moulton Hill tumuli, Bourn.
Stonea Camp, Wimblington.
Romano-British settlement, near Honey Bridge, Wimblington.
Tumulus S.W. of Honey Farm, Chatteris.
Chesterton Abbey.

CHESHIRE.

Baguley Hall, Northenden.
Beeston Castle.
The Sandbach Crosses.
Town Walls, Chester.
Shocklach Castle.
The City Walls, Towers, Gates and Posterns, Chester.

CORNWALL.

Treverbyn Bridge, St. Cleer.
Hayle inscribed stone.
Trencrom Castle, Uny Lelant.
Beersheba long stone, Uny Lelant.
The Zennor Quoit.
Pennance chambered barrow, Zennor.
Treen Common stone circle, Zennor.
Castle an Dinas, Ludgvan.
Chysauster hut clusters, Gulval.
Bleu Bridge stone, Gulval.
Madron Well Chapel.
Penzance market cross.
St. Buryan village cross.
The "Blind Fiddler" standing stone, Trenuggo, Sancreed.
The "Merry Maidens" or "Dawns Men") stone circle, St. Buryan.
The "Pipers of Boleigh" standing stone, St. Buryan.
Treryn Dinas fort, St. Levan.
Tumuli, S.S.E. of Treen, Zennor.
Bosporthennis beehive hut (or The Crellas), Zennor.
Bosporthennis hut circles, Zennor.
The "Nine Maidens," or Boskednan stone circle, Gulval.
Men Scryfa (inscribed stone), Madron.
Long Stone, west of Boswens Common, Sancreed.
Chun Cromlech, Morvah.
Chun Castle, Morvah.
Croftoe British Village, Morvah.
Bosullow Trehyllis (hut circles), Madron.
Men an Tol, Madron.
West Lanyon Quoit, Madron.
Higher Drift long stones, Sancreed.
St. Gothian's Chapel, Gwithian.
Mulfra Quoit, Madron.
Lanyon Quoit, Madron.
The "Three Brothers of Grugoth," Dolmen.
Two standing stones on Crousa Common.
Tremenheere Long Stone.
The Long Stone, Sithney.
Ballowall Barrow, St. Just.
Trelill Well Chapel, near Helston.
"Pixies Hall," Constantine.
Chapel Carn Brea barrow.
The "Nine Maidens" stone circle, Wendron.
St. Ruan's Well, Grade.

SCHEDULED MONUMENTS—*continued.*

The holed stones, Kenidjack Common.
Nanscowe inscribed stone, St. Breock.
Tregonning Hill Camp, Breage.
Mayon Castle, Sennen.
Pengersick Castle.
South Hill inscribed cross.
Dupath Well Chapel, Callington.
Trethevy Quoit, St. Cleer.
Plan-an-Gwarry, St. Just.
" King Doniert's " inscribed stone, St. Cleer.
Woolley Barrows, Morwenstow.

CUMBERLAND.

Barnscar British settlement, Muncaster.
The stone circles on Burn Moor, near Boot.
Calder Abbey.
Castle How, Wythop.
The stone circle on Castle-rigg, Keswick.
Egremont Castle.
Grey Yauds stone circle, Cumwhitton.
Hardknot Castle, Roman fort, Birker.
Lanercost Bridge.
Liddel Strength, Motte and Bailey, Kirkandrews Moat.
Eamont Bridge, Penrith.
Dunmallet hill fort, Dacre.
The stone circle known as " Long Meg and her Daughters," Addingham.
Maiden Castle, Watermillock.
Old Carlisle Roman fort, Wigton.
Old Penrith (Voreda) Roman fort, Plumpton.
Penrith Castle.
Roman site at Maryport.
Shoulthwaite Gill hill fort, near Thirlmere.
Stone circle on Dean Moor.
Stone circle on Elva Hill, Setmurthy.
Tower Tye earthworks, Naworth.
Walls Castle, Ravensglass.
Wetheral Priory gatehouse.
Keswick Town Hall.

DERBYSHIRE.

Ashford Bridge.
Bakewell Bridge.
Baslow Bridge.
Brough Camp, Roman fort, Hope.
Cromford Bridge.
Derwent Woodlands packhorse bridge.
Fox Lane Crosses, Ramsley Moor, Holmesfield.
Hob Hurst's House, West Moor.
Holm Bridge, Bakewell.
Matlock Bridge.
Melandra Castle, Roman fort, Glossop.
Minning Low, near Brassington.
Monk's Bridge, Egginton.
St. Mary's Bridge Chapel, Derby.
Swarkeston Bridge.
The earthen ring and stone circle known as Arborlow and the tumulus of Gib Hill.
The tumulus and circle on Eyam Moor.
The stone circle known as the Nine Ladies, Stanton Moor.
Torside Castle, Charlesworth.
Wheston Cross, Tideswell.
Five Well tumulus, Taddington.
Wingfield Manor, South Wingfield.
Brown Low tumulus, Ludworth.

DEVONSHIRE.

Berry Pomeroy Castle.
Sourton Down Cross.
Holne New Bridge.
Fingle Bridge, Drewsteignton.
Bideford Bridge.
Beckford Bridge, Membury.
Lambert's Castle, Hawkchurch.
Denbury Camp, Torbryan.
Countess Wear Bridge, Exminster.
New (or Gunnislake) Bridge, Tavistock Hamlets.
Group of tumuli on south side of Gittisham Hill, near Honiton.
Two tumuli on Farway Hill, near Honiton.
Willsworthy " Pound," Petertavy.
Bantham Camp, Thurlestone.
Bickleigh Brake tumuli.
Bolt Tail Camp.
Burleigh Dolts, South Huish.
Halwell Camp.
Lydford Bridge.
Lydford, earth wall at east end of village.
Lydford, earthwork in field, S.W. of church.

SCHEDULED MONUMENTS—*continued.*

Lydford, "Gallows Hill."
No Man's Chapel tumulus, Upton Pyne.
Okehampton Castle.
Okehampton, stone cross adjoining Fice's Well.
Totnes Castle.
Westerland Beacon barrow, Marldon.
Countisbury Castle.
Lyn Long Stones.
Blackdown Camp (the Rings).
Stanborough Camp.
Hembury Fort, Payhembury.
Old Barrow Castle, Countisbury.
Martinhoe Castle.
Cewydd's Stone, Lynton.
Durpley Castle.
Shoulsbarrow Castle.
Voley Castle.
Tumuli on Venn Ottery Hill.
Tumuli on Aylesbeare Hill.
Tumuli at S. end of Aylesbeare Common.
Tumuli at "Four Firs," Woodbury Common.
Tumuli on Colation Raleigh Common.
Tumuli on Woodbury Common.
Woodbury Castle.
Northcott Wood Camp.
Fourbarrow Head, Ashwater.
Burley Wood Camp, Bridestowe.
Windbury Head Camp, Hartland.
Berry Castle, Huntshaw.
Rougemont Castle, Exeter.
Norman House, King Street, Exeter.
St. Nicholas' Priory, Exeter.
The Tuckers' Hall, Fore Street, Exeter.
The Law Library, Cathedral Yard, Exeter.
The Guildhall, High Street, Exeter.
Hall of the Vicars Choral, South Street, Exeter.
Hawkesdown Camp, Axmouth.
Blackbury Castle, Southleigh.
Berry Cliff Camp, Branscombe.
Musbury Castle.
Kentisbury Barrow.
Tavistock Abbey.
Cadbury Castle.
Inscribed stones in Vicarage garden, Tavistock.
The "Spinster's Rock," Drewsteignton.
Membury Castle.
Holwell Castle.
Camp S.E. of Okehampton.
Stockland Camp.
Dumpdon Camp, Luppitt.
Clovelly Dykes.
Dartington Hall (unoccupied portions).
Compton Castle.
Milber Down Camp, Coffinswell.
Copplestone Cross.

DORSETSHIRE.

Shaftesbury Avenue.
The Conduit Cross, Sherborne.
Stalbridge Cross.
Rempstone stone circle, Corfe Castle.
Group of tumuli on Oakley Down, Pentridge.
Roman road on Oakley Down, Pentridge.
"Rolls" Bridge, Sturminster Newton.
Fifehead Neville packhorse bridge.
Hambleton Hill Camp, Child Okeford.
Hod Hill Camp and Lydsbury Rings, Stourpaine.
Cranborne Castle mound.
Group of tumuli and earthworks, Knowlton, near Wimborne.
Badbury Rings, Wimborne.
Pilsdon Pen Camp.
St. Aldhelm's Chapel, Purbeck.
Powerstock Castle.
Cerne Giant, Cerne Abbas.
Crawford Bridge, Spettisbury.
St. Julian's Bridge, Wimborne.
The site of Cerne Abbey, including the gatehouse, guest house, wine house and barn, Cerne Abbas.
Disc tumulus E. of Eggardon Hill Camp, Powerstock.
Eggardon Hill Camp, Powerstock.
Two Gates (remains of chambered long barrow) Compton Abbas.
The Broad Stone, Winterborne Abbas.
Long barrow on Long Barrow Hill, Long Bredy.
Earth circle S. of Turner's Farm Barn, Litton Cheney.

SCHEDULED MONUMENTS—*continued.*

Standing stone W. of Kingston Plantation, Long Bredy.
Roman road in Kingston Park, near Dorchester.
The Helstone burial chamber, Portisham.
Hampton stone circle on Portisham Hill.
Chambered long barrow N. of Loscombe Plantation, Winterborne Steepleton.
Earth circle near Big Wood, Winterborne Steepleton.
Abbey Barn and dovecot, Abbotsbury.
Mayne stone circle, West Knighton.
Rufus Castle, Portland.
Group of tumuli on Bronkham Hill, Winterborne St. Martin.
Upway disc tumulus.
Group of tumuli on Bincombe Hill.
Culliford Tree long barrow and group of tumuli, Whitcombe.
Poxwell cairn circle.
Wool Bridge.
Bindon Abbey, Wool.
Holme Bridge, East Stoke.
St. Martin's Church, Wareham.
Preston Roman villa.
Preston footbridge.
Bindon Hill Camp, West Lulworth.
Group of tumuli on Nine Barrow Down, Corfe Castle.
Long barrow E. of Northfield Plantation, Winterborne Steepleton.
White Mill Bridge, Sturminster Marshall.
Bokerley Dyke, Woodyates.
Group of barrows on Bokerley Down, Pentridge.
Long barrow, ¾ mile S.W. of St. Rumbold's Church, Pentridge.
Pimperne long barrow, Tarrant Hinton.
Two long barrows on Gussage Hill, Gussage St. Michael.
Long barrow, east of Thickthorn Down, Gussage St. Michael.
Disc barrow, west of Harley Gap, Gussage Down, Gussage St. Michael.
Long barrow, S.W. of Chettle House, Chettle.
Chettle long barrow at N.E. corner of Eastbury Park, Tarrant Gunville.
Long barrow on Little Down, Tarrant Rawston.
Long barrow on Blandford Race Down, S. of Vanity Hill Wood, Tarrant Launceston.
Long barrow, 1,100 yards W. of Bere Down Buildings, Bere Regis.
Corfe Castle.
Sherborne Castle.
The stone circle at Kingston Russell.
The Nine Stones, Winterborne Abbas.
The long barrow called "The Grey Mare and Colts," near Abbotsbury.

DURHAM.

Barnard Castle.
Framwellgate Bridge, Durham.
Elvet Bridge, Durham.
Chester New Bridge, Lambton.
Maiden Castle earthwork, Durham.
Bishopton Castle Hill earthwork.
Finchale Priory.
Castle Steads Camp, Esh Winning.
"The Castles" (camp), South Bedburn.
The Maiden's Bower, Durham.
Legs Cross, Bolam.
Sunderland Bridge, near Crosdale.

ESSEX.

Colchester Castle.
Hadleigh Castle.
Hedingham Castle.
St. Botolph's Priory, Colchester.
Bradwell Roman Fort.
Great Burstead tumuli.
Plumberow Mount, Hockley.
"Bishop Bonner's Palace," Orsett.
Prittlewell Priory.
Purleigh moated mound.
Rayleigh Castle.
Earthworks near Church, West Tilbury.
Rochford Hall (uninhabited portions).

SCHEDULED MONUMENTS—*continued.*

GLOUCESTERSHIRE.

King John's Bridge, Tewkesbury.
Beckbury Camp, Hailes.
Brackenbury Camp, North Nibley.
Bloody Acre Camp, Cromhall.
Buttington Tump, Tidenham.
Bury Hill Camp, Mangotsfield.
Roman Ampitheatre, Cirencester.
Crickley Hill Camp, Coberley.
The tumulus at Uley.
The Roman villa at Witcombe.
Kemerton Camp.
Cleeve Hill Camp, near Cheltenham.
Haresfield Hill Camp and Ring Hill earthworks.
Horton Camp.
King's Weston Hill Camp, Henbury.
Leckhampton Camp and tumulus.
Littledean Camp.
Lydney Park Camp and Roman remains, Aylburton.
Meon Hill Camp, Clopton.
Nottingham Hill Camp, Gotherington.
Painswick Hill (or Kimsbury) Camp.
Ranbury Ring, Ampney St. Peter.
Sodbury Camp.
Uley Bury Camp.
Windrush Camp.
Shenberrow Hill Camp, Stanton.
Chedworth Roman villa.
Amberley Camp, Minchinhampton.
"The Bulwarks," Minchinhampton.
Hyde tumulus, Minchinhampton.
Miserden Castle mound.
Belas Knap long barrow, Charlton Abbots.
Bown Hill long barrow, Woodchester.
Buckholt tumulus, Nympsfield.
Camp barrows (north and south), Miserden.
Cold Aston long barrow, Aston Blank.
Colnpen long barrow, Coln Rogers.
Crippets long barrow, Coberley.
Eyford long barrow.
Gatcombe long barrow, Minchinhampton.
Hoar Stone long barrow, Duntisbourne Abbots.
Juniper Hill long barrow, Edgeworth.
Lodge Park long barrow, Farmington.
The Long Stone, Minchinhampton.
Lower Swell long barrow.
Notgrove long barrow.
Poleswood East long barrow, Upper Swell.
Tingle Stone long barrow, Avening.
West long barrow, Boxwell-with-Leighterton.
West Tump long barrow, Brimpsfield.
Windmill Tump long barrow, Rodmarton.
Withington long barrow.

HAMPSHIRE.

Roman road on Martin Down, Martin.
Oratory and Pharos on St. Catherine's Hill, Niton.
The Double Dykes, Hengistbury Head, Highcliffe.
Oval earthwork on St. Catherine's Hill, Christchurch.
Miz Maze on Breamore Down.
"Giant's Grave" long barrow, Breamore Down.
Cross base in garden of Prior's Barton, Winchester.
King John's House in Warnford Park.
St. Catherine's Hill Camp, Winchester.
Merdon Castle, Hursley.
Winklebury Camp, Basingstoke.
Buckland Rings, Lymington.
Bull's Down Camp, Bramley.
"Oliver's Battery" (earthwork), Basing.
Tourney Bury, Hayling Island.
Old Winchester Hill Camp and adjacent round barrows, Meonstoke.
Butser Hill earthworks, East Meon.
Clanfield disc barrow.
"The Jumps" group of barrows, Privett.
Roman Camp, Ashley.
Dunwood Camp.
Toot Hill Camp, Rownhams.
Holbury Wood Camp, East Tytherley.
"Oliver's Battery" (earthworks) Abbotstone Down, Itchen Stoke.
Whitsbury Camp.

SCHEDULED MONUMENTS—*continued.*

Knap barrow, Toyd Down, near Martin.
Grans barrow, Rockbourne.
Duck's Nest long barrow, Rockbourne.
Ladle Hill Camp and adjacent barrow, Burghclere.
Beacon Hill Camp, Burghclere.
"Seven Barrows," Thorn Down, Burghclere.
God's House Gate and Tower, Southampton.
The Polymond Tower and portion of the Town Walls extending from it to the Bar Gate, Southampton.
The remains of the Town Walls from and including the Arundel Tower to the south limit of the Castle site, including the Catchcold Tower and the Norman Vault of Southampton Castle, Southampton.
The Court House, East Meon.
Long barrow, 630 yards S.W. of the Church, Woodcott.
Froxfield entrenchments.
The Tudor House, St. Michael's Square, Southampton.
The West Gate, Winchester.
The King's Gate, Winchester.
Hyde Abbey Gateway, Winchester.
God's Providence House, St. Thomas's Square, Newport.
Silchester, Roman Town Walls and Gates.
Woolbury Ring, Stockbridge.
Danebury Hill Camp, Nether Wallop.
Devil's Ditch, Andover.
Andyke, Bransbury, near Andover.
Tidbury Ring, Bullington.
Bury Hill Camp, Clatford.
Quarley Hill Camp.
Group of barrows in Cholderton Park, Amport.
Long barrow 700 yards east of the Church, Crux Easton.
The Bar Gate, Southampton.
The remains of the Town Walls between Simnel Street and the site of the Bugle Tower, including King John's Palace and the Guard Room adjoining the West Gate, Southampton.
The Wool House, Bugle Street, Southampton.
The "Undercroft," Simnel Street, Southampton.
Canute's Palace, Porter's Lane, Southampton.
Winchester Castle (Great Hall, remains of Round Tower and the Sally Port).
Wolvesley Castle (ruins of twelfth century building).
Titchfield Abbey.
Portchester Castle.
Netley Abbey.
Basing House.
Christchurch Castle (Castle Hall, known as the Norman House).
Beaulieu Abbey.
The "Longstone," Mottistone.
Godsfield Chapel, Alresford.
Odiham Castle.
Roman road east of Buckholt Farm, Buckholt.

HEREFORDSHIRE.

Arthur's Stone, Dorstone.
Goodrich Castle.

HERTFORDSHIRE.

The Mount, Sandon.
Moated mound, near Hale Farm, Anstey.
Moated mound at Cole Green, Brent Pelham.
Beech Bottom entrenchment, Sandridge.
Moated mound, north of Hadham Hall, Little Hadham.
Moated mound, south of Rennesley Garden Wood, Standon.
The Slad, Sandridge.
Devil's Dyke, Sandridge.
Site of Verulamium.
"The Aubreys" Camp, Redbourn.
Arbury Banks, Ashwell.
Anstey Castle.
The Cave, Royston.
Ravensburgh Castle, Hexton.
Toot Hill, Pirton.
Great Wymondley Castle.
The "Six Hills," Stevenage.
St. Mary Magdalen's Church, Flaunden.
Therfield Heath long barrow and tumuli.

SCHEDULED MONUMENTS—*continued.*

HUNTINGDONSHIRE.

St. Ives Bridge.
Wansford Bridge.
St. Neots Bridge.
Alconbury Bridge.
Tumulus N. of Upper Lodge, Chesterton.
Two tumuli N.W. of Manor Farm, Keyston.
Tumulus E. of Ermine Street, Great Stukeley.
Tumulus W. of Ermine Street, Great Stukeley.
The Bulwark, Earith.
Horsey Hill fort, Stanground.
Roman Camp (" The Castles "), Chesterton.
Spaldwick Bridge.
Nun's Bridge, Huntingdon.
Huntingdon Bridge.
Tumulus, Emmanuel Knoll, Godmanchester.
Two tumuli near Ermine Street, N.E. of Venetian Lodge, Morborne.
Tumulus S.E. of Lodge Gate of Abbots Ripton Hall, Abbots Ripton.
Huntingdon Castle earthworks (" Castle Hills ").
The Maze and Monument on Hilton Green, Hilton.

KENT.

Pit dwellings in Rose Wood, Ightham.
White Horse stone, Aylesford.
Aylesford Bridge.
Canterbury City Walls.
Corpus Christi Brotherhood Hall, Earl Street, Maidstone.
Tithe Barn, Mill Street, Maidstone.
Earthworks in Joyden's Wood, near Dartford.
Holwood Camp, Keston.
The Amphitheatre, Richborough.
The Fisher Gate, Sandwich.
Reculver Roman fort.
Canterbury Castle.
Grey Friars, Canterbury.
Rochester Castle.
St. Leonard's Tower, Malling.
Tonbridge Castle.
Kit's Coty House, Aylesford.
St. Radegund's Abbey, Poulton.
Coldrum long barrow.
Oldbury Camp, Ightham.
Addington long barrow.
Julliberrie's Grave long barrow, Chilham.
Chestnuts, remains of dolmen, Addington.

LANCASHIRE.

Astley Hall, Chorley.
Buckton Castle, Mossley.
Burscough Priory.
Calderstones, Little Woolton.
Camp near Holme Bank Plantation, Urswick.
Cartmel Priory gatehouse.
Castercliff Camp, Nelson.
Castle Hill, Newton-in-Makerfield.
Castle Hill, Pennington.
Castle Stede, Hornby.
Clitheroe Castle.
Cockersand Abbey.
Crag Hill fort, Warton.
Eadsford (or Edisford) Bridge, Clitheroe.
Furness Abbey.
Gleaston Castle.
Hall i' th' Wood, Bolton.
Knapperthaw stone circle, Lowick.
Newby Bridge, Colton.
Piel Castle, Piel Island, Barrow-in-Furness.
Planes Wood Camp, Whalley.
Radcliffe Tower.
Remains of eastern wall of the Roman fort, Manchester.
Robin Hood's stone, Allerton.
St. Patrick's Chapel, Heysham.
Stone circles on Cheetham Close, Turton.
The Bleasdale circle.
The Hanging Bridge, Manchester.
The Old Lower Hodder Bridge, Aighton.
The "Winckley Mounds," Aighton.
Urswick British settlement.
Warton Old Rectory, near Carnforth.
Whalley Abbey.
Wraysholme Tower, Ulverston.
Godley Lane Cross, Burnley.
Higherford old bridge, Barrowford.
Skerton Bridge, Lancaster.
Castle Hill, Halton.
Tumulus on Summerhouse Hill, Yealand Conyers.

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SCHEDULED MONUMENTS—*continued.*

LEICESTERSHIRE.

Anstey packhorse bridge.
Ashby-de-la-Zouche Castle.
Ayleston Bridge.
Belgrave Bridge, near Leicester.
Bradgate House, Newtown Linford.
Burrough Hill Camp, Burrough on the Hill.
Groby Castle and Castle Hill.
Hallaton Castle.
Kirby Muxloe Castle.
Leicester Castle mound.
Old Town Hall, Leicester.
Ratby Camp.
The " Butter Cross " in Swithland Park.
" The Dungeon," Leicester Castle.
The Great Hall, Leicester Castle.
The Jewry Wall, Leicester.
The Magazine gateway, The Newarke, Leicester.
The Ray Dykes, Aylestone, Leicester.
The Roman pavement, Blackfriar's Street, Leicester.
The Turret gateway, Leicester.
Ulverscroft Abbey.

LINCOLNSHIRE.

Lincoln Castle (except modern buildings).
Tattershall Castle.
The Newport Arch, Lincoln.
Thornton Abbey.
Tower on the Moor, Woodhall Spa.
Kirkstead Abbey.
Trinity Bridge, Crowland.
St. Guthlac's Cross, Crowland.
Bishop's Bridge, West Rasen.
Tupholme Abbey.
Section of Roman Wall south of the Bishop's Palace, Lincoln.
Portion of Roman fosse and mound west of Temple Gardens, Lincoln.
Norman Manor House, Boothby Pagnell.
Torksey Castle.
" Julian's Bower," Alkborough.
Section of Roman Town Wall in East Bight, Lincoln.
Roman Wall in West Bight, Lincoln.
White Friars House, Akrills Court, Lincoln.
Monk's Abbey, Lincoln.
Grey Friars Museum, Broadgate, Lincoln.
The High Bridge, Lincoln.
Utterby packhorse bridge.
Gainsborough Old Hall.

MONMOUTHSHIRE.

(The Monmouthshire entries will be found amongst those for Wales.)

NORFOLK.

Caister Castle.
Castle Acre Priory.
Castle Rising.
Dominican Friary, Norwich (parts of).
Norwich Castle (excluding modern buildings).
St. Benet's Abbey, Holm.
Walsingham Abbey.
Binham wayside cross.
Langley Cross.
Group of barrows on Great Bircham Common.
Castle Hill, Hunworth.
Five barrows on Harpley Common.
Buckenham Priory and Castle site.
Two tumuli on West Harling Heath.
The Gate House at Manor House, East Barsham.
Drayton wayside cross.
Horsford Castle.
Castle Acre Castle.
Caistor Camp, Caistor St. Edmunds.
Two tumuli on Broome Heath, Ditchingham.
Melford Bridge, Thetford.
Potter Heigham Bridge.
"Tutt Hill" barrow, near Thetford.
Round barrow on Elder Hill, near Thetford.
" Seven Hills " (tumuli), Rushford.
Hangour Hill round barrow, Beechamwell.
"The Mound" (barrow), Stradsett.
Devil's Dyke, Beechamwell.
Broomholm Priory, Bacton.
Craub's Castle, Wighton.
St. James's Hospital, Horning.
Greyfriars Tower, King's Lynn.
Red Mount Chapel, King's Lynn.

SCHEDULED MONUMENTS—*continued.*

Round barrow at north of Massingham Common, Great Massingham.
Group of barrows in Weasenham Plantation.
Gresham Castle.
Danish Camp, Holkham.
"Court Hill" tumulus, Frettenham.
Baconsthorpe Castle.
Mileham Castle.
Great Yarmouth Town Walls and Towers.
Portion of Town Walls in Kettlewell Lane, King's Lynn.
South Gate, King's Lynn.
The Guild Hall, King's Lynn.
The Greenland Fishery, Bridge Street, King's Lynn.
Barrow on the Hangs, Cley next the Sea.
Samson and Hercules House, Tombland, Norwich.
Aylmerton wayside cross.
Tumulus in Keeper's Wood, Castle Rising.
West Acre Priory.
Gayton Thorpe Roman villa.
Bishop's Palace Gate, Norwich.
Beeston Priory.
Suckling's House, Norwich.
Slipper House, Bawburgh.
Middleton Mount.
Market Cross, Castle Rising.
Weeting Castle.
Two tumuli in Big Wood, Hethersett.
Round barrow at Shepherd's Bush, east of Massingham Heath, Great Massingham.
The Strangers' Hall, Norwich.
Bishop Bridge, Norwich.
Group of barrows in Weasenham Lyngs.
Pentney Priory gateway.
Pentney wayside cross.
White Friars Gateway, South Lynn, King's Lynn.
Group of tumuli on Roughton Heath.
Group of tumuli in The Warren, Weston Longville.
Market Cross, Wymondham.
Mote Hill, Wymondham.
Town Pump, Little Walsingham.
Castle Hill, Hangsman's Hill and adjoining earthworks, Darrow Green, Denton.
The City Walls and Towers, Norwich.
The Guildhall, Norwich.
Curat's House, Haymarket, Norwich.
Old Assembly Rooms, Theatre Street, Norwich.
Churchman's House, St. Giles Street, Norwich.
St. Lawrence's Well, Lower Westwick Street, Norwich.
Bridewell, Norwich.
Gate of Bridewell, St. Andrew's Hill, Norwich.
Augustine Steward's House, Tombland, Norwich.
Cow Tower, Norwich.
Old Charnel House, The Close, Norwich.
Water Gate, The Close, Norwich.
St. Ethelbert Gate, Norwich.
Erpingham Gate, Norwich.
Bishop Salmon's Porch, Norwich.
Lazar House, Norwich.
Hardley Cross.
Carrow Priory, Norwich (ruined portions).
Two tumuli on Eaton Heath, Norwich.
Devil's Dyke (or Fendyke), Cranwich to Weeting.
"Mickle Hill," Croxton.
"Brood Hill," Santon.
Red Castle, Thetford.
Castle Hill, Thetford.
Cluniac Priory, Thetford.
Corporation Museum, Thetford.
Grime's Graves, Weeting.
"Pepper Hill," Weeting.
Two round barrows, S.W. of Snake Wood, Weeting.
Two round barrows in Mount Ephraim Plantation, Weeting.
Round barrow in Grime's Graves Plantation, Weeting.
Devil's Ditch, East Harling and Garboldisham Heaths.
Tumulus on East Harling Heath.
Tumuli on Garboldisham Heath.
The Barn, Kenninghall Palace.
Rushford Bridge.
Bunn's Bank, Attleborough.
Buckenham Castle.
"Man Hill," Bodney.
Round barrow, Bodney.
"Camphill," Narborough.
Mona Hill, Necton.
Three round barrows, Hilly Plantation, North Pickenham.
Devil's Dyke, Ashill.
Group of tumuli on Sparrow Hill, Merton.

SCHEDULED MONUMENTS—*continued.*

"High Banks," Saham Toney.
Waterhouse Lodge round barrow, Thompson.
Two round barrows on Flag Heath, Tottington.
St. Mary's Chapel, Old Buckenham.
Gallows Hill tumulus, Hargham.
Bishop's Castle, North Elmham.
Danish Camp, Horningtoft.
Greyfriars Cloisters, Middlegate Street, Great Yarmouth.
Toll House, Middlegate Street, Great Yarmouth.
Merchant's House, Row 117, South Quay, Great Yarmouth.
Howe's Hill tumulus, Upper Sheringham.
Tumulus in Hundred Acre Wood, Weybourne.
Sixteen tumuli on or near Salthouse Heath.
Wiveton Bridge.
The Guildhall, Blakeney.
Binham Priory.
Danish Camp, Warham St. Mary.

NORTHAMPTONSHIRE.

Geddington Bridge.
Barnwell Castle.
The Eleanor Cross, Geddington.
Castle Dykes, Farthingstone.
Charwelton Bridge.
Danes Camp, Hardingstone.
The Eleanor Cross, Hardingstone.
Higham Ferrers Market Cross.
Irthlingborough Market Cross.
Helpston Market Cross.
Kirby Hall, Gretton.
Newton in the Willows dovecote.
Lolham Bridge, Maxey.
"Robin Hood" and "Little John" standing stones, Castor.
Wothorpe House.
Fotheringhay Castle.
Clifford Hill, Little Houghton.
Rainsborough Camp, near Charlton, Newbottle.
"Burnt Walls" earthwork, Daventry.
Earls Barton Castle (or Berry Mount), Earls Barton.
The Market House, Rothwell.
The Triangular Lodge, Rushton.

NORTHUMBERLAND.

Altar at Castle Nook Farm, near Kirkhaugh.
Berwick Bridge, Berwick-on-Tweed.
Duddo stone circle.
Dunstanborough Castle.
Edlingham Castle.
Newcastle Castle.
Norham Castle.
Prudhoe Castle (except modern building).
Section of Roman wall east of Denton Burn, East Denton.
Section of Roman wall east of Heddon-on-the-Wall.
The Hermitage, Warkworth Castle.
Wallington Bridge, Wallington Demesne.
Warkworth Castle.
Whitley Castle, near Kirkhaugh.

NOTTINGHAMSHIRE.

Beauvale Abbey.
Cockpit Hill, Ramsdale Park, Arnold.
Fox Wood earthworks, Woodborough.
Laxton Castle earthworks.
Margidunum, Roman station, East Bridgford.
Mattersey Priory.
Newark Castle.
Stapleford cross shaft.

OXFORDSHIRE.

The Hoar Stone, Enstone.
The Hawk Stone, Spelsbury.
The Devil's Quoits, Stanton Harcourt.
Witney Butter Cross.
Remains of the Great Hall and other ruined buildings, Minster Lovell.
Chiselhampton Bridge.
Radcot Bridge.
Culham Bridge.
The Rollright Stones, near Little Rollright.

SCHEDULED MONUMENTS—*continued.*

RUTLAND.

Oakham Castle (wall, moat and Norman hall).

SHROPSHIRE.

Acton Burnell Castle.
Atcham Bridge.
Buildwas Abbey.
Clun Castle.
Haughmond Abbey.
Langley Chapel, Acton Burnell.
Lilleshall Abbey.
Ludlow Castle.
Stokesay Castle.
The stone circle known as Mitchell's Fold.
Wenlock Abbey.
Bridge near Prescott Mill, Stottesdon.
Blodwell Rock Camp and portions of Llanymynech Hill Camp, Oswestry.
The Hoar stone circle, Black Marsh, Chirbury.

SOMERSETSHIRE.

Glastonbury Abbey.
Farleigh Castle.
The long barrow at Stoney Littleton.
Cadbury Castle, South Cadbury.
Nunney Castle.
The circles, avenues and cove at Stanton Drew.
The Abbot's Fish House, Meare.
Worlebury Camp.
Bury Bridge, Dulverton.
The Tithe Barn, Preston Plucknett.
Congresbury Cross.
Market Cross, Somerton.
Castle Neroche, Curland.
Cynwit Castle, Cannington.
Church House, Crowcombe.
Wick Barrow ("Pixies Mound"), Stogursey.
Cleeve Abbey, Old Cleeve.
The Yarn Market, Dunster.
West Luccombe packhorse bridge.
Horner packhorse bridge, Luccombe.
Market Cross, Cheddar.
The Tithe Barn, Glastonbury.
The Tithe Barn, Doulting, near Shepton Mallet.
Bishop's Tithe Barn, Wells.
Tithe Barn, Pilton, near Shepton Mallet.
Tarr Steps Bridge, Hawkridge.
Stone circle on Withypool Hill.
Caractacus Stone, near Spire Cross, Winsford.
Wedmore village cross.
Malmsmead Bridge, Oare.
The Roman Baths, Bath.
Long barrow and round barrow on Felton hill, Winford.

STAFFORDSHIRE.

Berry Ring Camp, Bradley.
Berth Hill Camp, Maer.
Bury Bank Camp, Stone.
Castle Ring Camp, near Cannock.
Chartley Castle, Chartley Holme.
Croxden Abbey.
Dudley Castle.
Tamworth Castle.
The Old Gateway, East Gate, Stafford.
Wall (Letocetum) Roman station.
Tixall Gatehouse, Tixall Park.

SUFFOLK.

Bungay Castle.
Burgh Castle.
Bury St. Edmunds Abbey (Gates, Precinct Walls, remains of Church and Cloister Buildings).
Eye Castle.
Brandon Bridge.
Lavenham Guildhall.
The "Seven Hills" (tumuli), Nacton.
Market Cross, Mildenhall.
Castle Hills, Bungay.

SURREY.

Guildford Castle.
Tumble Beacon, Banstead.
Anstiebury Camp, Capel.
Holmbury Hill Camp, Abinger.
The Mound, west of the Church, Abinger.
Mound in Deerleap Wood, Wotton.
Barrow on Milton Heath, Dorking.
Castle Hill earthwork, Chessington, near Epsom.
Newark Priory, Ripley.
Waverley Abbey, Farnham.

SCHEDULED MONUMENTS—*continued.*

"Soldiers Ring" tumuli, Crooksbury, near Farnham.
Waynflete's Tower, Esher.
St. Catherine's Chapel, Artington.
Earthworks near St. Giles's Church, Ashtead.
Camp in Ashtead Forest.
Camp at War Coppice, Caterham.
Eashing Bridge, Lower Eashing.
The Guildhall, Guildford.
Hascombe Hill Camp.
Lovekyn's Chantry Chapel (or St. Mary Magdalen's Chapel), Kingston-on-Thames.
Lagham Park earthworks, South Godstone.
Pachesham earthwork in "The Mounts," Leatherhead.
Hillbury Camp, Puttenham Common.
Frowsbury Mound, Puttenham Heath.
Earth circles on St. Martha's Hill, St. Martha.
Barrow near Tyting Farm, St. Martha.
Three quadrangular earthworks on Banstead Heath.
"Gally Hills" four barrows, Banstead Downs.
Earthwork in Castlehill Wood, Godstone.
Thunderfield Castle, Horley.
Tumulus N.E. of Cherkley Court, Leatherhead Downs.
Dry Hill Camp, Lingfield.
Remains of a Roman villa, Titsey Park, Titsey.
The Mound, Walton Place, Walton on the Hill.

SUSSEX.

Stopham Bridge, Pulborough.
The Land Gate, Rye.
The Strand Gate, Winchelsea.
The Ferry Gate, Winchelsea.
The New Gate, Winchelsea.
Bramber Castle.
Devil's Dyke Camp earthworks and "Giants' Graves," Poynings.
The Court Hall, Winchelsea.
Amberley Castle.
Bodiam Castle.
Camber Castle.
Hastings Castle.
Lewes Castle.
Pevensey Castle.
Winchelsea Friary.
Ypres Tower, Rye.
White Hawk Camp, near Brighton.
Earthworks and lynchets, near Eastwick Barn, Patcham.
Group of tumuli on Tegdown Hill, Patcham.
Ewe Bottom entrenchment, Patcham.
Long Burgh long barrow, Alfriston.
Money Burgh long barrow, Piddinghoe.
Windover Hill long barrow, Arlington.

WARWICKSHIRE.

Barnmoor Wood Camp, Claverdon.
Beacon Tower, Burton Dassett.
Beausale Camp.
Bidford Bridge.
Brinklow tumulus and camp (motte and bailey).
Caludon Castle, near Coventry.
Castle Hills Castle, Fillongley.
Chesterton windmill.
Clopton Bridge, Stratford-on-Avon.
Coleshill Bridge.
Cook Street Gate, Coventry.
Corley Camp.
Furnace End Bridge, Shustoke.
Gredenton Hill Camp, Fenny Compton.
Hillmorton tumulus.
Hunningham Bridge.
Kenilworth Abbey.
Kenilworth Castle.
Marton Bridge.
Maxstoke Priory.
Nadbury Camp, Ratley.
Oakley Wood Camp, Tachbrook.
Packhorse Bridge, Hampton-in-Arden.
Perry Bridge, Handsworth.
Polesworth Bridge.
Roman Camp, Chesterton.
Seckington Castle.
Stare Bridge, Stoneleigh.
The "Island" tumulus, Rugby.
Wappenbury Camp.
Water Orton Bridge.
Oldbury Camp, Oldbury.
Tumulus in Hartshill Hayes, Hartshill.
Hartshill Castle.
Barrow, S.W. of Coton House, Churchover.
Manduessedum, Roman camp, Mancetter.
Berry Mound Camp, Solihull.
Knighton barrow and cross on Knighton Hill, Ryton on Dunsmore.

H. Joel, Photo.] PAYCOCKE'S HOUSE, COGGESHALL. [*Copyright.*

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SCHEDULED MONUMENTS—*continued.*

WESTMORLAND.

Arnside Tower.
Arthur's Round Table, Penrith.
Beetham Hall (the curtain wall and Pele Tower).
Bewley Castle, Crackenthorpe.
Brough Castle.
Brougham Castle.
Burneside Hall (the Pele Tower and gatehouse).
Castle Crag, British earthwork, Mardale.
Castle How, Kendal.
Castlesteads British settlement, The Helm, near Kendal.
Circles and tumuli, including the Copstone and Cockpit on Moor Divock, Askham.
Devil's Bridge, Kirkby Lonsdale.
"Druids' Circle" on Knipe Scar, Bampton.
Eweclose British settlement, Crosby Ravensworth.
Gunnerkeld stone circle, Shap.
Hartley Castle (curtain wall).
Hazleshack Tower, near Beetham.
Hugill British settlement, near High Borrans.
Kendal Castle.
Lammerside Castle, Wharton.
Levens Bridge.
Maiden Castle, near Brough.
Mayborough, near Penrith.
Middleton Hall (curtain wall with gatehouse).
Millrigg British settlement, Kentmere.
Nether Bridge, Kendal.
Pendragon Castle, Mallerstang.
Roman fort, Brougham.
Roman fort, Low Borrowbridge.
Roman fort, Watercrook.
Roman milestone near Middleton Vicarage.
Scalford British settlement, near Kirkby Lonsdale.
Shap Abbey.
Swarth Fell standing stones, Barton and Sockbridge.
Wharton Hall (the gatehouse, banqueting hall and kitchen).

WILTSHIRE.

Old Sarum.
Silbury Hill.
The long barrow at West Kennett, near Marlborough.
Earthwork enclosure N. of Wansdyke, Stanton St. Bernard.
Four earthwork enclosures on All Cannings Down.
Earthwork enclosure on Allington Down.
East Kennett long barrow.
Stone circle, Winterbourne Bassett.
Stone circle on Allington Down.
Roman road, near Avebury.
Group of barrows on King's Play Hill, Heddington.
Rybury Camp, All Cannings.
Group of barrows E. of Westfield Farm, Wilsford, Amesbury.
The Stonehenge Avenue.
Group of barrows in and E. of Fargo Plantation, Amesbury.
Group of barrows on Normanton Down, Amesbury.
Group of barrows S.E. of Middle Farm, Rollestone.
Group of barrows W. of Normanton Gorse, Wilsford, Amesbury.
Group of barrows on Winterbourne Stoke Down.
Group of barrows W. of Fargo Plantation, Winterbourne Stoke.
Earthwork and group of barrows on Fore Down, Winterbourne Stoke.
Long barrow on Ashmore Down, Donhead St. Mary.
Clearbury Ring, Standlynch.
The "Giant's Grave" long barrow, Downton.
Long barrow on Stockton Down.
Long barrow on Cold Kitchen Hill, Brixton Deverill.
Long barrow on Pertwood Down, Brixton Deverill.
Roman road on Pertwood Down, Brixton Deverill.
Winterbourne Stoke Down long barrow.
Tilshead Lodge long barrow.
"Old Ditch" long barrow, Tilshead.
Colloway Clump long barrow.
Tidcombe long barrow.
Wexcombe Down long barrow, Grafton.
Great Botley Copse barrows, Shalbourne.
Group of barrows S. of Fargo Cottages, Amesbury.

SCHEDULED MONUMENTS—*continued.*

Two barrows on Stonehenge Down.
Giant's Grave long barrow, Milton Hill, Milton Lilbourne.
Roman road on Overton Hill, West Overton.
Group of barrows on Overton Hill, West Overton.
Two barrows N.W. of Beckhampton Plantation, Bishop's Cannings.
" Long Stones " long barrow N. of Beckhampton House, Avebury.
Group of barrows on Avebury Down, Avebury.
Earthwork enclosure E. of Kennett Road, on Avebury Down, Avebury.
Group of barrows near Fox Covert, Avebury.
Group of barrows near West Kennett.
Group of barrows and earthwork enclosure on Windmill Hill, Avebury.
Group of barrows and sarsen stones on Monkton Down, Winterbourne Monkton.
Bell barrow on West Down, Avebury.
Two barrows E. of White Horse Plantation, on Cherhill Down, Cherhill.
Oldbury Camp, Cherhill.
Barrow N.W. of Beckhampton Buildings Plantation, Bishop's Cannings.
Group of barrows N. of Down Barn, Bishop's Cannings.
Lanhill long barrow, Chippenham.
Coombe Bissett Down long barrow.
" Giants Graves," Martinsell Hill, Oare.
Barrow Copse long barrow, West Overton.
Group of barrows on Draycott Hill, Wilcot.
Tinhead Hill long barrow, Edington.
Bratton Camp.
Kill long barrow, Tilshead.
Sutton Veny long barrow.
Knook Castle.
Oxendean Down long barrow, Warminster.
" King " long barrow, near Bishopstrow House, Warminster.
Scratchbury Camp, Norton Bavant.
Battlesbury Camp, Warminster.
Norton Down long barrow, Norton Bavant.
Middleton Down long barrow, Norton Bavant.
Knook long barrow.
"Bowls" long barrow, Heytesbury.
Knook Down long barrow.
Corton long barrow, Boyton.
Sherrington long barrow.
Sherrington and Boyton barrows.
Castle Rings Camp, Donhead St. Mary.
Chislebury Camp, Fovant.
Group of barrows in Rockley Plantation, Ogbourne St. Andrew.
Barrow, 750 feet east of the vallum, Avebury.
Fosbury Camp, Tidcombe and Fosbury.
Clack Mount, Bradenstoke cum Clack.
Three round barrows on Luccombe Bottom, Edington.
Two round barrows on Picquet Hill, Edington.
Barrow on Arn Hill Down, Warminster.
Barrow, 220 yards S.E. of Bearclose Cottages, Upton Scudamore.
Two barrows on Cley Hill, Corsley.
Upton Great Barrow, Upton Lovell.
Barrow S.E. of Cold Kitchen Hill, Kingston Deverill.
Barrow, W. of Cold Kitchen Hill, Kingston Deverill.
Barrow on Boar's Bottom, Monkton Deverill.
Barrow on Westcombe Downs, Longbridge Deverill.
Barrow on summit of Cotley Hill, Norton Bavant.
Two barrows S.E. of Norton Plantation, Norton Bavant.
Three barrows, with encircling ditch, ¼ mile S. of Olddown Barn, Amesbury Down, Amesbury.
Ogbury Camp, Durnford.
Barrow in park of Lake House, Wilsford, Amesbury.
Two barrows N.W. of Little Down, Durnford.
Group of barrows on Codford Down, Codford St. Peter.
Earthwork enclosure on Mancombe Down, Warminster.
Bowl barrow on Parsonage Down, 100 yards E. of Warminster to Shaftesbury Road at 5 miles from Warminster, Sutton Veny.
Bowl barrow on Littlecombe Hill, Sutton Veny.
Barrow on Rook Hill, Hill Deverill.

SCHEDULED MONUMENTS—*continued.*

Barrow, S. of Dairy Farm, Kingston Deverill.
Barrow, east of Court Hill Plantation, Kingston Deverill.
Bowl barrow on Four Hundred Down, Westbury.
Group of barrows west of Hooklands Plantation, Woodford.
Two bowl barrows on Cold Kitchen Hill, Brixton Deverill.
Barrow, S.E. of Duke's Clump, Brimsdown Hill, Kingston Deverill.
Barrow, N.W. of Proutley Wood, Maiden Bradley.
Barrow, 300 yards W. of All Saints' Church, Maiden Bradley.
Barrow, 120 yards S.E. of cross roads in village of Maiden Bradley.
Barrow, S. of Penning Barn, Avebury.
Barrow on Smeath's Down, Ogbourne St. Andrew.
Group of barrows west of Barbury Castle, Wroughton.
Barrow on Burderop Down, one mile east of Barbury Castle, Chiseldon.
Barrow in Barrow Field, Burderop Down, Chiseldon.
Round barrow in "Barrow Piece," Preshute.
Barbury Castle, Ogbourne St. Andrew.
Devil's Den Dolmen, near Marlborough.
Langdean stone circle, East Kennett.
Manton Down long barrow, Preshute.
Penning stone circle, Avebury.
The Vallum at Avebury; the standing stones and area within the enclosure together with remains of avenues on or near the Kennett and Beckhampton roads.
Fairmile Down long barrow, Collingbourne Kingston.
Group of barrows, near Milton Hill Farm, Milton Lilbourne.
Group of barrows on Snail Down, Collingbourne Kingston.
White Sheet Camp, Mere.
Group of barrows on Cow Down, Collingbourne Ducis.
Two barrows W. of Hougoumont Farm, Collingbourne Ducis.
"Old Hat" barrow, Everley.
Barrow N. of Marlborough Road Plantation, Everley.
Barrow E. of Milton Wood, Milton Lilbourne.
Two barrows S. of Summer Down, Collingbourne Kingston.
Group of barrows S.E. of Down Farm, Pewsey.
"Everley Barrows."
Chisbury Camp, Little Bedwyn.
Liddington Camp.
Liddington long barrow.
Binknoll Camp, Broad Hinton.
Bury Wood Camp, Colerne.
"Giant's Caves," long barrow, Luckington.
Ringsbury Camp, Purton.
"Hand Barrow," Laverstock.
Codford Circle.
Yarnbury Camp, Berwick St. James.
"Four Barrows" S. of Whitecomb Plantation, Aldbourne.
Two barrows on Sugar Hill, Aldbourne.
Barrow N.W. of Aldbourne Warren Farm, Aldbourne.
Group of barrows S.E. of High Clear Plantation, Aldbourne.
Long barrow on Smay Down, Fosbury.
"The Conigar" group of barrows, Winterbourne Stoke.
The "Seven Barrows" and group of barrows to the N. of them, Amesbury.
Two barrows in Luxenborough Plantation, Amesbury.
Three barrows in Round Plantation, Amesbury.
Coneybury Hill barrow, Amesbury.
Stapleford Castle.
Long barrows S.W. of Eighteen Acre Plantation, Woodford.
Castle Hill, Blunsdon St. Andrew.
Castle Ditches Camp, Wardour.
Long barrow on White Sheet Hill, Donhead St. Andrew.
Winkelbury Camp.
Lugbury long barrow, Nettleton.
Adam's Grave long barrow, Alton Priors.
Knap Hill Camp, Alton Priors.
Winterbourne Stoke group of barrows.
Norwood Castle, Oaksey.
"The Giant's Chair" round barrow, Downton.
Newton Barrow, South Newton.
Round barrow S.E. of Cowdown Farm, Stapleford.
Two round barrows N.E. of Lady Well, Edington.

SCHEDULED MONUMENTS—*continued.*

Two round barrows S. of track to Imber, Heytesbury.
Wansdyke, between Chisbury Camp and the Bedwyn Road, Little Bedwyn.
Chisbury Chapel, Little Bedwyn.
The Halle of John Halle, New Canal, Salisbury.
Easton Hill round barrow, Easton.
The "Lake Group" of barrows, Wilsford, Amesbury.
The group of barrows N. of "The Diamond" on Wilsford Down, Amesbury.
Two barrows in Starveall Plantation, Wilsford, Amesbury.
The "Wilsford Group" of barrows, Amesbury.
Group of barrows and adjoining earthwork on Wilsford Down, Amesbury.
Group of barrows W. of Four Mile Clump, Marlborough Downs.
Barrow, S.W. of Barbury Barn, Preshute Down, Preshute.
Group of barrows 1 mile E. of Avebury Down Barn, Avebury.
Barrow, east of Ridge Way and north of its junction with track from Avebury to Rockley, Overton Down, West Overton.
Group of barrows S.E. of Avebury Down Barn, Avebury.
Group of barrows in northern portion of Monkton Down, Winterbourne Monkton.
Barrow on Avebury Down, south of track from Avebury, Avebury.
Group of barrows north of Rockley Plantation, Ogbourne St. Andrew.
Barrow on Marlborough Common, 400 feet E. of Wootton Bassett Road, Preshute.
Group of barrows on Walker's Hill, S.W. of New Town, Alton Priors.
"The Knoll" (barrow) ¾ mile N.W. of Church Farm, Tytherington, Sutton Veny.
Barrow on Middle Hill, Kingston Deverill.
Two barrows S.W. of Keysley Farm, Monkton Deverill.
Two barrows seven furlongs E. of Keysley Farm, Keysley Down, Monkton Deverill.
Barrow on Keysley Down, 270 yards W. of Warminster to Shaftesbury Road, Monkton Deverill.
Two barrows ½ mile E. of Rodmead Farm, Rodmead Hill, Maiden Bradley.
Barrow, ½ mile E. of Rodmead Wood, Rodmead Hill, Maiden Bradley.
Barrow and earthwork, S. of Danes' Bottom, Kingston Deverill.
Barrow, 300 yards N. of Truncombe Wood, Kingston Deverill.
Two barrows S. of Sherrington Mill Farm, Sherrington.
Sherrington Castle mound.
Barrow, N. of Amesbury Road, ¾ mile N.E. of Willoughby Hedge, East Knoyle.
Barrow, ½ mile N.W. of Willoughby Hedge, West Knoyle.
Group of barrows on North Hill Down, Stratford sub Castle.
Group of barrows near Field Barn, Steeple Langford.

WORCESTERSHIRE.

Arley Wood Camp.
Barrow Hill, Chaddesley Corbett.
Berrow Hill, Martley.
Bransford Bridge.
Conderton Camp.
Crookbarrow, Whittington.
Dudley Priory.
Eckington Bridge.
Edgar Tower, entrance to Cathedral Close, Worcester.
Halesowen Abbey.
Ham Bridge.
Herefordshire Beacon Camp.
Midsummer Hill Camp.
Pershore Bridge.
Powick Bridge.
Queen Elizabeth's House in the Trinity, Worcester.
Refectory of St. Mary's Priory, in the Cathedral Close, Worcester.
Remains of the Guesten Hall, Worcester.
Tenbury Bridge.
The Guildhall, High Street, Worcester.
The Tithe Barn, Bredon.
The Tithe Barn, Middle Littleton.
Western range of monastic buildings of the Cathedral Priory, Worcester.
Woodbury Hill Camp.
Wychbury Camp.
Wyre Bridge.

SCHEDULED MONUMENTS—*continued.*

YORKSHIRE.

Barden Bridge.
Barforth Bridge.
Barnard Castle Bridge.
Beggar's Bridge, Glaisdale.
Blackstone Edge "Roman Road."
Bolton Castle.
Bow Bridge over Grange Gill Beck, Askrigg.
Bowes Castle.
Butt Hills, Bridlington.
Byland Abbey.
Castle Dyke, Aysgarth.
Castle Hill earthworks, Almondbury.
Castle Hill, Castle Leavington.
Catterick Bridge, Brough.
Chapel and Priest's House, Bewerley Hall, near Pateley Bridge.
Clifford's Tower, York Castle.
Close Gate Bridge, Marsden.
Conisborough Castle.
Coverham Abbey.
Coverham Abbey Bridge.
Croft Bridge.
Cup and ring marked stone, Woodhouse Crag, near Ilkley.
Danes Dyke, Flamborough.
Duck Bridge, Danby.
Easby Abbey.
Easington Tithe Barn.
Egglestone Abbey.
Ferry Bridge, near Knottingley.
Fountains Abbey.
Greta Bridge, Rokeby.
Grey Friars' Tower, Richmond.
Guisborough Abbey.
Hedon How tumulus, Kennythorpe.
Helmsley Castle.
Jervaulx Abbey.
Kildwick Bridge.
Kilgram Bridge, East Witton.
Kirkham Abbey.
Kirkstall Abbey.
Knaresborough High Bridge.
Maiden Castle, Grinton.
Middleham Castle.
Mount Ferrant Castle, Birdsall.
Mount Grace Priory.
Mulgrave Castle, Lythe.
Old bridge over the Hebden Water, Hebden Bridge.
Richmond Castle.
Rievaulx Abbey.
Roche Abbey.
Romanby packhorse bridge.
Rotherham old bridge.
Salley Abbey.
Scramridge Dykes, Hackness.
Sheriff Hutton Castle.
Skipsea Brough.
Skipsea Castle.
Snape Castle (the Chapel and ruined portions).
Stanwick Camp earthworks.
St. Leonard's Hospital, York.
St. Mary's Abbey, York.
St. Mary's Abbey precinct walls, York.
St. William's College, College Street, York.
Studford ring, Ampleforth.
Tanfield Bridge, West Tanfield.
The city walls, gates, posterns, moats and mounds (including the Bayle Hill), York.
The Devil's Arrows, Boroughbridge.
The Guildhall, the old Council Chamber and room beneath, the Water Gate, the vaulted passage leading to it and the adjacent river walls, York.
The Nosterfield and Thornborough circles.
The Three Dykes, Langton.
Thorsgill Beck packhorse bridge, Barnard Castle.
Town End Bridge, Sowerby.
Ulshaw Bridge, Middleham.
Wakefield Bridge.
Wensley Bridge.
Westow Grange tumulus, Westow.
Wharram Hill Embankment Cross, Burton Agnes.
Whitby Abbey.
Wressle Castle.
Yarm Bridge.
Castle Dikes (Roman Camp), North Stainley.
Stony Raise Cairn, Greenber Edge, Thornton Rust.
Wetherby Bridge.
Wincobank Camp, Sheffield.
Bailey Hill, Bradfield.
Castle Hill, Bradfield.
Tower of Paull Holme Manor House, Paull.
Sandal Castle and earthworks, Wakefield.
Walton Cross, Clifton, near Brighouse.
William's Hill, Middleham.
Marmion Tower, West Tanfield.
The Castle Hill, Laughton en le Morthen.
Settle Bridge.

SCHEDULED MONUMENTS—*continued.*

Enclosures (ancient settlement), east of Stony Raise Cairn, Greenber Edge, Thornton Rust.
Meaux Abbey.
The Bedern Chapel, York.
Hutton Moor and Cana circles and tumuli, near Ripon.
Tumulus, 100 yards east of Witherick Plantation, Hutton Conyers.
St. Laurence's Chapel, Barforth.

WALES AND MONMOUTHSHIRE.

ANGLESEY.

Aber Lleiniog Castle.
Beaumaris Castle.
Bodfeddan inscribed stone, Llanfaelog.
Bodowyr Dolmen.
Brygwyn standing stones, Llanidan.
Bryn Celli Ddu Dolmen.
Caer Lêb.
Caer y Twr, Holyhead Mountain.
Castell Bryn-Gwyn.
Din Dryfol Dolmen.
Din Lligwy Ancient Village, Penrhos-Lligwy.
Din Sulwy Camp, Llanfihangel t'yn Sylwy.
Henblas Dolmen.
Hendrefor Burial Chambers, Llansadwrn.
Llanol inscribed stone, Llanbabo.
Lligwy Dolmen.
Mountain (Cyttiau'r Gwydd-elod).
Pant y Saer Dolmen.
Plas Newydd Chambered Mound.
Plas Newydd Dolmen.
Presaddfed Dolmens.
Standing stones, Penrhos Feilw.
Standing stones, Tregwehelydd
The hut circles on Holyhead.
The ruined parts of the Monastic Buildings of Penmon Priory, with the Dovecote, the early Christian Cross in the deer park at Penmon and the tower and remains of the church on Puffin Island.
The standing stone on Ty Mawr Farm.
Trefignath Dolmen.
Trescawen inscribed stone, Llangwyllog.
Ty Newydd Dolmen.

BRECKNOCKSHIRE.

Brecon Bridge.
Crickhowell Bridge.
Cwm fforest long barrow, Talgarth.
The Gaer, Roman site, near Brecon.
The three barrows at Ffostyll, Llanelieu.
Ty Isaf long barrow, Talgarth.
Y Pigwn on Trecastell Mountain.

CARDIGANSHIRE.

Cardigan Bridge.
Castell Gwallter Castle mound, Llanfihangel-geneu'r-glyn.
Llechryd Bridge.
Newcastle Emlyn Bridge.
Strata Florida Abbey.

CARMARTHENSHIRE.

Carmarthen Bridge.
Carmarthen Castle (ancient portions).
Carreg Cennen Castle.
Dolauhirion Bridge, Llandovery.
Kidwelly Castle.
Laugharne Castle.
Llanstephan Castle.
Spudder's Bridge, Kidwelly.

CARNARVONSHIRE.

Aber Castle mound.
Bachwen burial chamber, Clynnog.
Bodfean Camp.
Bryn y Gefeiliau Roman site, Capel Curig.
Caerhun Roman site.
Carnarvon town walls.
Carn Fadryn Camp, Llaniestyn.
Castell Caer Lleion Camp, Conway.
Cefn Amwlch Dolmen.
Cefn Isaf Dolmen.
Cochwillan Barn, Llanllechid.
Conway Castle.
Conway town walls and watch towers.
Criccieth Castle.

SCHEDULED MONUMENTS—*continued.*

Cwm Dyli ancient village, Beddgelert.
Deganwy Castle, Llanrhos.
Dinas Dinorwic Camp.
Dinas Emrys Camp, Beddgelert.
Dinas y Prif Camp and hut circles, Llanwnda.
Gesail Gyfarch inscribed stone, Dolbenmaen.
Llandudno Dolmen.
Llanfaglan inscribed stone.
Llystyn Gwyn inscribed stone, Dolbenmaen.
Pantavon Roman milestone, Llanrûg.
Pen y Gaer Camp, Llanbedr y Cennin.
Pont y Pair Bridge, near Bettws-y-Coed.
Porth Llwydd burial chamber, Caerhûn.
Rhiw burial chamber.
Rhydd Llanfair Bridge, near Bettws-y-Coed.
Ro Wen burial chamber, Caerhûn.
Segontium, Roman site, Carnarvon.
The Penmaenmawr stone circles, etc.
Tomen Fawr, Llanystumdwy.
Tre'r Ceiri Camp, Llanaelhaiarn.
Ystum Cegid burial chambers, Llanystumdwy.
Nant y Castell Camp, Llanbedrog.
Ffynnon Cybi, Llangybi.

DENBIGHSHIRE.

Capel Garmon Dolmen.
Cefn Banog ancient village, Clocaenog.
Denbigh town walls.
Dinas Bran Castle and Camp, Llangollen.
Dinorben Camp, St. George.
Erddig Castle mound, Erthig.
Holt Bridge.
Llangollen Bridge.
Llanrwst Bridge.
Llys Gwenllian Castle mound, Llanrhaiadr yn Cinmerch.
Maen Huail (historic stone) at corner of Exmewe Hall on the west side of the Market Square, Ruthin.
Maen Pebyll Dolmen.
Moel Fenlli Camp, Llanbedr Dyffryn Clwyd.
Moel y Gaer Camp, Llanbedr Dyffryn Clwyd.
Pen y Corddyn Camp, Abergele.
Pen y Gaer Camp, Llanfihangel, Glyn Myfyr.
Pillar of Eliseg and tumulus, Llantysilio yn Iâl.
Pont y Cysyllttau Bridge, Trevor, near Ruabon.
Pool Park inscribed stone, Llanfwrog.
Ruthin Castle (unoccupied portion).
St. Hilary's Chapel, Denbigh.
Sycharth Castle mound, Llansilin.
The Carmelite Friary, Denbigh.
The Civil War earthworks, Denbigh.
The "Levelinus" inscribed stone, Pentre-Foelas.
The Mount, Abergele.
The Roman settlement, Holt.
Tomen y Faerdre Castle mound, Llanarmon yn Iâl.
Tomen y Rhodwydd Castle mound, Llanarmon yn Iâl.
Tyddyn Bleiddyn burial chamber, Cefn, St. Asaph.
Valle Crucis Abbey.
Creigiau Eglwyseg tumuli and earth circle, Llangollen Rural.
Y Gaer Camp (hill fort), Llannefydd.
Boncyn Arian tumulus, Llanrhaiadr yn Cinmerch Rural.
Rhyd Sion Wyn circular platform, Llanrhaiadr yn Cinmerch Rural.
Twr Hill tumulus, Llanrhaiadr yn Cinmerch Rural.
Hen Ddinbych earthwork, Llanrhaiadr yn Cinmerch Rural.
Maen Sertan, boundary stone, Llanrwst Rural.
Cefn y Gadfa stone rows and cists, Pentre-Foelas.
Hafod y Dre stone rows and cists, Pentre-Foelas.
The Brohomagli stone, Pentre-Foelas.
Y Foelas Castle mound, Pentre-Foelas.
Pont Newydd Bridge (Northern).
Pont Newydd Bridge (Southern).
Rhiwiau tumulus, Llansannan.
Plas Newydd tumulus, Llansannan.
Hen Ddinbych circular platforms, Llanrhaiadr yn Cinmerch Rural.
Bwlch Du tumulus, Llanrhaiadr yn Cinmerch Rural.
Maes Mochnant standing stone, Llanrhaiadr ym Mochnant.
Craig Berwen tumulus, Llanrhaiadr ym Mochnant.

SCHEDULED MONUMENTS—*continued.*

Ffynnon Las Wood tumulus, Llangollen Rural.
Wilderness tumuli, Llangollen Rural.
Tomen y Meirw (tumulus), Llansantffraid Glyn Ceiriog.
Y Garth Camp (hill fort), Llanynys Rural.
Bryn yr Hen Groes tumuli, Nantglyn.
Castle Farm tumulus, Ruthin.
Holt Castle.
The Cockpit, Hawk and Buckle Inn, Denbigh.
Moel Llech tumulus, Llanfair Dyffryn Clwyd Rural.
Maesmynan Castle mound, Aberwheeler.
Ty Mawr tumuli, Bryn-eglwys.
Pant y Maen tumulus, Bryn-eglwys.
Rhos Lydan tumuli, Bryn-eglwys.
Church tumuli, Bylchau.
Bedd y Cawr Camp (hill fort), Cefn (St. Asaph).
Ffynnon Fair (Holy Well and Chapel), Cefn (St. Asaph).
Cae Garn tumulus, Cerrig-y-Druidion.
Bryn Beddau tumuli (cairn circles), Clocaenog.
Pont Petryal Caerau circles, Derwen.
Capel Hiraethog tumulus (cairn circle), Gyffylliog.
Capel Hiraethog earth circles, Gyffylliog.
Leicester's Church, Denbigh.
Pen y Gaer Camp (hill fort), Efenechtyd.
Mwdwl Eithin tumuli, Eglwys-Fach.
Hafod y Bwch tumulus, Esclusham Below.
Croes Foel tumulus, Esclusham Below.
Plas Heaton tumulus, Henllan Urban.
Coed y Plas tumulus, Henllan Urban.
Plas Meifod tumulus, Henllan Urban.
Old Foxhall tumulus, Henllan Urban.
Old Foxhall earth circle, Henllan Urban.
New Foxhall House, Henllan Urban.
New Foxhall Dovecot, Henllan Urban.
Maes Maelor tumulus, Llandegla.
Bryn Alyn Camp (hill fort), Llay.
Y Gaer Camp (earthwork), Llay.
Bryn Alyn tumulus, Llay.
Cader Fronwen tumulus, Llanarmon Dyffryn Ceiriog.
Ty'n y Mynydd tumulus, Llanarmon yn Iâl.
Moel y Plas tumulus, Llanarmon yn Iâl.
Moel Gyw tumulus, Llanarmon yn Iâl.
Lyn Cyfnwy tumulus, Llanarmon yn Iâl.
Cyrn y Brain tumuli, Llandegla.
Eglwyseg Mountain tumulus, Llangollen Rural.
Moel Sych tumulus, Llanrhaiadr ym Mochnant.
Moel Gamelin tumulus, Llantysilio yn Iâl.
Ruabon Mountain tumulus, Pen y cae.
Cefn y Gader tumuli, Pen y cae.
Bryn Euryn Camp (hill fort), Llandrillo yn Rhos.
Tom Dongen tumulus, Llanelidan.
Craig Adwy Wynt Camp (hill fort), Llanfair Dyffryn Clwyd Rural.
Ffynogion moated site, Llanfair Dyffryn Clwyd Urban.
Rhos Domen tumuli, Llanfair Talhaiarn.
Caer Ddunod Camp (hill fort), Llanfihangel Glyn Myfyr.
Hendre Isaf Castle mound, Llangerniew.
Pant y Rhedyn earthwork, Llangerniew.
Creigiau Eglwyseg tumuli, Llangollen Rural.
Creigiau Eglwyseg stone circle, Llangollen Rural.

FLINTSHIRE.

Bangor Bridge.
Basingwerk Abbey.
Downing Hall inscribed stone, Whitford.
Ewloe Castle.
Flint Castle.
Hawarden Castle.
Maen Achwyfan, Whitford.
Moel Arthur Camp, Nannerch.
Moel y Gaer Camp, Northop.
Moel Hiraddug Camp, Cwm.
Pen y Cloddiau Camp, Nannerch.
Rhuddlan Bridge.
Rhuddlan Castle.

SCHEDULED MONUMENTS—*continued.*

Stone circle and standing stone in Penbedw Park, Cilcain.
The Bailey Hill, Mold.
The Gop cairn, Gwaenysgor.
The Twthill, Rhuddlan.
Ysceifiog circle and tumulus and Offa's Dyke.
The Rofft Castle mound and earthworks, Marford.
Caergwrle Castle, Hope.

GLAMORGANSHIRE.

Arthur's Stone, on Defn Bryn.
Beaupré Castle.
Caerphilly Castle.
Coity Castle.
Gelligaer, Roman site.
Leckwith Bridge, near Cardiff.
Margam Abbey.
Neath Abbey.
Oystermouth Castle.
Pontypridd Bridge.
St. Lythan Dolmen.
St. Nicholas Dolmen.
Swansea Castle.
The Bell Tower of Llandaff Cathedral.
The sculptured stones and crosses at Margam and Kenfig.
Weobley Castle, Gower.
The Twmpath, Rhiwbina, Whitechurch.

MERIONETHSHIRE.

Berth Ddu hut circles, Llanenddwyn.
Carneddau Hengwm long cairns, Llanaber.
Cefn Caer Roman site, Pennal.
Cymmer Abbey.
Dolgelley Bridge.
Dyffryn burial chambers, Llanenddwyn.
Llanelltyd Bridge.
Tomen y Mur, Roman site.
Tyddyn y Coed Camp, Brithdir.
The Muriau Gwyddelod ancient village, Llandanwg.
The Gwern Einion burial chamber, Llanfair.
Caer Drewyn Camp, Corwen.
Moel Ty Uchaf circles, Llandrillo.
Dinas Melin y Wig Camp, Gwyddelwern.
Caer Euni Camp, Llandderfel.
Tomen y Bala Castle mound, Bala.
Owen Glyndwr's Mount, Corwen.
Caer Gai Roman site, Llanuwchllyn.
Rûg Castle mound, Corwen.
Craig y Ddinas Camp, Llanddwywe-is-y-Craig.
Moel Offrwm Camp, Llanfachreth.
Lys Bradwen mediæval site, Llangelynin.
Castell y Bere Castle, Llanfihangel-y-Pennant.

MONMOUTHSHIRE.

Abergavenny Bridge.
Caerwent, Roman site.
Cas Troggy Castle, Newchurch W.
Chepstow Castle.
Chepstow town walls.
Grosmont Castle.
Llanthony Abbey.
Monnow Bridge, Monmouth.
Newport Castle.
Penrhos Camp, Llangattock, near Caerleon.
Raglan Castle.
Remains of the Roman Legionary fortress of Caerleon.
The Gaerlwyd burial chamber, Newchurch.
Usk Castle (unoccupied portions).
White Castle.
Tump Terrett Castle mount, Trelleck.
Harold's Stones, Trelleck.
Heston Brake long barrow, Portskewett.
Portskewett Hill Roman site, Portskewett.

MONTGOMERYSHIRE.

Caersws, Roman site.
Caer Digoll (Beacon Ring) Camp, Leighton.
Cefn Bryntalch Castle mound, Llandyssil.
Cefn Carnedd Camp, Llandinam.
Cefn Castell Camp, Middletown.
Cefn du Camp, Guilsfield Without.
Craig Rhiwarth Camp, Llanrhaiadr ym Mochnant.

SCHEDULED MONUMENTS—*continued.*

Domen Gastell Castle mount, Llanfechain.
Ffridd Faldwyn Camp, Montgomery.
Forden Gaer, Roman site.
Gaer Fawr Camp, Guilsfield Without.
Hen Domen Castle mound, Montgomery.
Llanfair-Caereinion, Gaer, Roman site.
Machynlleth Bridge.
Pen y Foel Camp, Castle Caereinion.
The Moat Castle mound, Llandinam.
The old Town Hall, Llanidloes.
Lymore, Montgomery.
Domen Gastell, Welshpool.
Dinas Camp (hill fort), Llanidloes Without.

PEMBROKESHIRE.

Carew Castle.
Carew Cross.
Cilgerran Castle.
Haverfordwest Priory.
Lamphey Palace.
Manorbier Castle (except such portions used as dwelling-house).
Pembroke Castle.
Pembroke town walls.
Pentre Evan Dolmen.
St. David's Palace.
St. Justinian's Chapel, St. David's.
St. Non's Chapel, St. David's.
St. Patrick's Chapel, St. David's.
The Close Wall, St. David's.
The gatehouse known as Porth y Twr, St. David's.
The hill fort known as Carn Ingli Camp, Newport.
The hill fort known as Foel Trigarn Camp, Whitechurch.
Tenby town walls.
Carn Ingli tumuli, Newport.

RADNORSHIRE.

Castell Collen, Roman site.
Crug Eryr, Castle mound, Llanfihangel-Nant-Melan.
Gaer, Roman site, Newchurch.
Pain's Castle, Llanbedr-Painscastle.
Rhayader Bridge.
The four stones, Walton and Womaston.

SCOTLAND.

ABERDEENSHIRE.

Greystone stone circle called "the Auld Kirk," Alford.
North Strone stone circle, Alford.
Corrstone Wood stone circle, near Muir of Rhynie.
Corrydown stone circle, Auchterless.
Logie Newton stone circles, Auchterless.
Mains of Hatton stone circle, near Kirktown of Auchterless.
Upperthird stone circle, Auchterless.
Kirktown of Bourtie stone circle, Bourtie.
Sheldon stone circle, Bourtie.
Arn Hill stone circle, including the Iron Stone, Cairnie.
Balgorkar (or Castle Fraser) stone circle and two adjacent standing stones, Cluny.
Standing stones of Netherton (stone circle), Crimond.
Loanhead stone circle, Daviot.
Cothiemuir Wood stone circle, Keig.
Old Keig stone circle, Keig.
Peathill standing stone, Keithhall.
Ardlair stone circle, Kennethmont.
Tuach Hill stone circle, Kintore.
Berrybrae stone circle, Lonmay.
Stone circle S.E. of Midmar Church, Midmar.
Seanhinny (Sunhoney) stone circle, Midmar.
Whitehill stone circle in Bogmore Wood, Monymusk.
Monykebbuck standing stone, New Machar.
Aiky Brae stone circle, Parkhouse Hill, Old Deer.
Auchmachar stone circle, Old Deer.
Gaval standing stone, Old Deer.
Loudon Wood stone circle, Old Deer.
Newcraig stone circle, Daviot.
Dyce (or Tyrebagger) standing stones (stone circle).
Stonyfield stone circle, Drumblade.
Standing stones of Echt (stone circle), Echt.

SCHEDULED MONUMENTS—*continued.*

Cairnton stone circle, Forgue.
Raich stone circle, Forgue.
Yonder Bognie stone circle, Forgue.
Hill of Fiddes stone circle, Foveran.
Candle Hill stone circle, Insch.
Dunnideer stone circle.
Inschfield stone circle, Insch.
Stonehead stone circle, Insch.
Druidstone stone circle, Premnay.
Auchquhorthies, Manar, stone circle, Inverurie.
White Cow Wood stone circle (cairn), Old Deer.
Candle Hill stone circle, Old Rayne.
Hatton of Ardoyne stone circle, Oyne.
Loanend stone circle, Hawk Hill, Premnay.
Milltown of Noth pillar stones, Muir of Rhynie.
Upper Ord stone circle and standing stone, Rhynie.
Wheedlemont stone circle, Rhynie.
Tomnagorn stone circle, near Tarland.
South Ythsie stone circle, Tarves.
Druidsfield stone circle, Montgarrie.
Kildrummie Castle.
Huntly Castle.
Tolquhan Castle.
Kinkell Church.
Bridge of Dee, Aberdeen.
Bridge of Don, Aberdeen.
The Bass of Inverurie.
The ruined transepts, St. Machar's Cathedral, Old Aberdeen.
The sculptured stones in Dyce Churchyard.
The pillar and stone at Newton-in-the-Garioch.
The vitrified fort on the hill called "Tap o' Noth."
Sculptured stone near Aboyne Castle, Aboyne.
Sculptured stone, Tillytarmont Farm, near Rothiemay Station.
Sculptured stone called "The Maiden Stone," Drumdurno Farm, Chapel of Garioch.
Three sculptured stones at Logie Elphinstone, Chapel of Garioch.
Sculptured stone at Knockespock, Kirkton of Clatt.
Sculptured stone at Knockespock, Tullich, near Milton of Tullich.
Sculptured stone in the Market Place, Huntly.
Sculptured stone called "Picardy Stone," near Mireton Farm, Insch.
Sculptured stone at Drummies, Inverurie.
Four sculptured stones, Churchyard, Inverurie.
Sculptured stone, Brandsbutt, Inverurie.
Sculptured stone, Keith Hall, near Inverurie.
Sculptured stone near Ardlair Farm, Kennethmont.
Sculptured stone from Percylieu Mill at Leith Hall, Kennethmont.
Sculptured stone from Newbiggin, Leslie, at Leith Hall, Kennethmont.
Sculptured stone on Hill of Fare, near Craigmyle House, Torphins.
Sculptured stone near Church, Kintore.
Sculptured stone and stone circle, Farm of Crichie, Kintore.
Sculptured stone near Corrachree House, Tarland.
Sculptured stone from "Ian-an-chan" at Blelack, Dinnet.
Sculptured stone at Kirkyard, Fetterangus, Old Deer.
Sculptured stone, old Burial Ground, Logie Coldstone.
Two sculptured stones, Old Kirkyard, Rhynie.
Sculptured stone called "Crawstane," at Mains of Rhynie, Rhynie.
Sculptured stone near Migvie Church.
Sculptured stone at Church of Tyrie.

ARGYLLSHIRE.

St. Oran's Chapel, Iona.
Iona Nunnery.
Oronsay Priory.
Dunstaffnage Castle.
The early Monastery on Eileach-an-Naoimh.
Sculptured stone, Burial Ground Ardchattan Priory, Lorne.
Sculptured stone at Kilchattan, Gigha Island.
Sculptured stone at St. Ninian, Sanda, Kintyre.
Sculptured stone, Old Kilchenzie, Kintyre.
Sculptured stone at Colonsay House, Colonsay.

SCHEDULED MONUMENTS—*continued.*

Cross slab on Inishail, Loch Awe, Lorne.
MacMillan's Cross, Kilmory of Knap, South Knapdale.
Sculptured stone, Old Kildalton, Islay.
Sculptured stone at Kilnave, Islay.
Two crosses near Church, Kilchoman, Islay.
Sculptured stone at Kilfinan, Cowal.
Sculptured stone called "Kilmartin Cross," Kilmartin.
Sculptured stone on North Knapdale.
Sculptured stone called "Keills Cross," Keills.
Cross slab, Oib Point, Loch Sween.
Stone with incised crosses at Inverneill House, Ardrishaig.
Cross slab and holy well near Loch Coille-a-Bharra.
Four cross slabs, Kilmory of Knap, South Knapdale.
Sculptured stone, Sorobay, Tiree.

AYRSHIRE.

Crossraguel Abbey.
Loch Doon Castle.
Kilwinning Abbey.
Dundonald Castle.
Auld Brig of Ayr.
Ayr Citadel, parts of
Brig o' Doon, Ayr.
Sculptured stone, Fairlie, Largs.

BANFFSHIRE.

Sculptured stone at Arndilly House, near Craigellachie.
Three sculptured stones, Inveravon Kirkyard, Strathspey.
Sculptured stone near Mortlach Church, Dufftown.
Sculptured stone from Redhill Farm at Rothiemay Castle.
Balvenie Castle.
Longman Cairn, Longman Hill, Gamrie.

BERWICKSHIRE.

Greeknowe Castle.
The circular walled structures called "Edin's Hall," on Cockburn Law.
The British walled settlement enclosing huts at Harefaulds in Lauderdale.
Preston Cleuch Fort, Bunkle and Preston.
Coldingham Loch Fort.
Earn's Heugh Forts, Coldingham.
Cockburn Law Fort, Duns.
Blackcastle Rings Fort, Greenlaw.
Fort, 300 yards N.W. of Raecleugh Head Farm, Langton.
Raecleugh Head Hill Fort, Langton.
Addinston Fort, Lauder.
Longcroft Fort, Lauder.
Stone circle on Borrowston Rig, approximately 1 mile N.E. of summit of Dabshead Hill, Lauder.
"Mutiny Stones" (long cairn), on Byrecleugh Ridge, ¾ mile N.W. of Byrecleugh, Longformacus.
"The Mount" (mote hill), 200 yards S.E. of Castle Law, Coldstream.
Crosshall Cross, Eccles.

BUTESHIRE.

Rothesay Castle.

CAITHNESS-SHIRE.

Girnigoe Castle.
Keiss Castle.
Cross slab, Mid-Clyth, Latheron.
Two sculptured stones at Sandside House, Reay.
Sculptured stone at old church, Reay.
The Ulbster Stone, Thurso.

CLACKMANNANSHIRE.

Clackmannan Tower.
Tullibody Bridge, Alloa.

CROMARTY.

(No Ancient Monuments scheduled.)

SCHEDULED MONUMENTS—*continued.*

DUMBARTONSHIRE.

Both sections of the Roman Wall in the cemetery at Hillfoot, Bearsden.
Roman Wall (Clyde-Forth) Bar Hill section and site of fort, Bar Hill, Kirkintilloch.
Roman Wall (Clyde-Forth) section west of the cemetery, Hillfort, Bearsden.
Roman Wall (Clyde-Forth) section west of Thorn, Bearsden.
Roman Wall (Clyde-Forth) Croy Hill section and site of fort, Croy Hill, Cumbernauld.
Roman Wall (Clyde-Forth), Garnhall—Arniebog section, Cumbernauld.
Roman Wall (Clyde-Forth), Westerwood—East Dullatur section, Cumbernauld.
Roman Wall (Clyde-Forth) section east of Westerwood Farm, Cumbernauld.

DUMFRIESSHIRE.

Caerlaverock Castle.
Amisfield Tower.
Comlongan Castle.
The gravestones of Fair Helen and Adam Fleming at Kirkconnel.
Merkland Cross, Woodhouse, near Ecclefechan.
The Cross at Ruthwell.
Dumfries Bridge.
Dalmakethar Burn Fort, Applegarth.
Gilknockie Roman Fort, Canonbie.
Mote of Dinning, Closeburn.
Kirkburn Fort, Durisdeer.
" Girdle Stanes " stone circle, Eskdalemuir.
" Loupin' Stanes " stone circle, Eskdalemuir.
Raeburnfoot Roman Camp, Eskdalemuir.
Fort Castle O'er, Eskdalemuir.
" Mote," The Orchard, Snade, Glencairn.
The Lower Mote, Ingleston, Glencairn.
" Twelve Apostles " stone circle, Kilness.
Birrenswark Hill camps and fort, Hoddom.
" Mote of Lochwood," Johnstone.
Woody Castle Fort, Lochmaben.
Birrens Roman Fort, Middlebie.
Auldton Mote, Moffat.
Tynron Doon Fort.

EAST LOTHIAN OR HADDINGTONSHIRE.

Abbey Bridge, Haddington.
East Linton Bridge.
Nungate Bridge, Haddington.
The Chesters, Drem.
White Castle, Garvald.
Green Castle, Garvald.
Black Castle, Garvald.
The Kaeheughs, Haddington.
Fort Stobshiel, Humbie.
Friar's Nose, Whittinghame.
Haerlaw Fort, Yester.
Fort Kidlaw, Yester.
The Castles, Yester.
Traprain Law fortifications, Prestonkirk.
Seton Collegiate Kirk.
Dirleton Castle.
Elphinstone Castle.
Tantallon Castle.
Redhouse.
Yester Castle and the Goblin Hall.
Dunglass Chapel.
St. Martin's Church, Haddington.

ELGIN.

Kinloss Abbey.
Pluscarden Priory.
Spynie Castle.
Coxton Tower.
The sculptured stone called "Sueno's Stone," near Forres.
Sculptured stone at Birnie, near Elgin.
Sculptured stone from Easterton of Roseisle at Burghead.
Sculptured stone at Brodie Castle, Dyke.
Sculptured stone near Upper Manbean Farmhouse, near Elgin.
Two sculptured stones, Knockando.

SCHEDULED MONUMENTS—*continued.*

FIFE.

Blackfriars Chapel, St. Andrews.
Inchcolm Abbey.
Balmerino Abbey.
Culross Abbey.
Scotstarvit Tower.
Guard Bridge, St. Andrews.
Collairnie Castle, Dunbog.
Aberdour Castle.
Old Parish Kirk, Aberdour.
Falkland Palace.
The Dogton Stone.
Sculptured stone near Inchcolm Abbey.
Sculptured stone from Walton Farm at Crawford Priory, Cults.
Sculptured stone near Sauchope House, Crail.
Sculptured stone beside Parish Church, Largo.
Sculptured stone near Lindores.
Sculptured stone at Mugdrum House, Newburgh.
Sculptured stone at St. Leonards School, St. Andrews.
Sculptured stones at ruined church of Abercromby, St. Monans.

FORFARSHIRE.

Affleck Castle.
Edzell Castle.
Claypotts Castle.
Brackie Castle.
Restenneth Priory.
The Abbot's House and Regality Tower, Arbroath.
Sculptured stone at The Manse, Arbirlot.
Sculptured stone at Old Kirkyard, Benvie.
Two sculptured stones at ruined Church, Invergowrie.
Sculptured stone at Dunnichen House, Dunnichen.
Sculptured stone called "St. Orland's Stone," Cossins Farm, Glamis.
Four sculptured stones, New Cemetery, Kirriemuir.
Sculptured stone in Churchyard, Kirriemuir.
The sculptured stones at Flemington Farm, Aberlemno.
The sculptured stone in Aberlemno Churchyard.
The hill forts called the "Black and White Caterthuns."
The sculptured stones at Eassie.
The sculptured stone called "The Grave of Malcolm II," Glamis.
Sculptured stone, Hunter's Hill, Glamis.
Sculptured stone, The Manse, Kinnell.
Sculptured stone, Keillor Hill, near Kettins.
Sculptured stone in Churchyard, Kettins.
Sculptured stone near Strathmartine Castle, Kirkton of Strathmartine.
Sculptured stone and fragment of another, Burial Ground, Menmuir.
Sculptured stone called "Camus Stone," near Panmuir House, Monikie.
Sculptured stone called "St. Martin's Stone," near South Balluderon Farm, Tealing.

INVERNESS-SHIRE.

The remains of the house in which Flora Macdonald lived, No. 1, Airidh Mhuilinn, South Uist.
Two sculptured stones, Congash, Abernethy.
Sculptured stone at Dunachton Lodge, Alvie.
The Balblair Stone at Moniack Castle, Kirkhill.
Sculptured cross, Island of Canna, Small Isles.
Sculptured stone, Island of Pabbay, Hebrides.
The "King's Stables," Culloden Battlefield, near Inverness.
The stone associated with the name of Prince Charles Edward Stuart, Culloden Battlefield, near Inverness.
The Graves of the Clans and Well of the Dead, Culloden Battlefield, near Inverness.
Old Leanach House, Culloden Battlefield, near Inverness.

SCHEDULED MONUMENTS—*continued.*

"Cumberland Stone," Culloden Battlefield, near Inverness.
Eilan Tirim Castle.
Inverlochy Castle.
St. Clement's Church, Rodel, Harris.
Urquhart Castle.
The upper and lower brochs of Glenelg.
Group of standing stones at Clava, Banks of Nairn.
Dunan Iadhard, Skye.

KINCARDINESHIRE.

Auchquhorthies stone circle, Banchory-Devenick.
Cairnwell stone circle, Banchory-Devenick.
Old Bourtreebush stone circle, Banchory-Devenick.
Craighead stone circle, Banchory-Devenick.
The greater stone circle, Esslie, Banchory-Ternan.
The smaller stone circle, Esslie, Banchory-Ternan.
Garrol Wood stone circle ("Nine-stanes"), Banchory-Ternan.
Glassel stone circle in Dam Wood, Banchory-Ternan.
Cairnfauld stone circle, Durris.
Raes of Clune stone circle, Clune Wood, Durris.
Dunnottar Castle.
Fiddes Castle.

KINROSS-SHIRE.

Lochleven Castle.
Burleigh Castle.

KIRKCUDBRIGHTSHIRE.

Sweetheart Abbey.
Lincluden College.
Carsluith Castle.
McClellan's Castle.
Orchardton Tower.
Threave Castle.
Sculptured rock on Trusty's Hill, Anwoth.
Two cross slabs near the summit of Braidenoch Hill, Carsphairn.
Two sculptured stones at N.E. corner of the ruined church of Minnigaff.
The Drumwhirn and Boreland cairns, Minnigaff.

LANARKSHIRE.

Roman Wall (Clyde-Forth) section in the grounds of Cawder House, Cadder.
St. Bride's, Douglas.
Craignethan Castle.
Bothwell Castle.
Hallbar Tower.
St. Kentigerns, Lanark.
Bothwell Bridge.

LINLITHGOWSHIRE.

Torphichen Kirk.
The Eagle Rock, Crammond.

MIDLOTHIAN.

Temple Kirk.
Colinton Castle.
Craigmillar Castle.
Crichton Castle.
Rosslyn Castle.
The Catstane, an inscribed pillar, Kirkliston.
Cramond Old Bridge.
Hailes House Roman sculpture, Slateford.
Musselburgh Bridge.
Longfaugh Fort, Crichton.
Earth house, Crichton Mains.
Castle Law Fort, Glencorse.
Corshope Rings Fort, Heriot.
Castle Greg Roman Fort, Mid Calder.
Camp Wood Fort, Newbattle.
Kaimes Hill Fort, Ratho.
Dalmahoy Hill Fort, Ratho.
Halltree Rings Fort, Stow.
Watherston Hill Fort, Stow.
Bow Castle, Broch, Stow.
Middlehill Fort, Stow.
Cortleferry walled enclosure, Stow.

SCHEDULED MONUMENTS—*continued.*

NAIRNSHIRE.

Sculptured stone called "The Princess' Stone," near Glenferness House, Ardclach.

ORKNEY.

Egilsay Church.
Eynhallow Church.
The Bishop's and Earl's Palaces, Kirkwall.
Noltland Castle, Westray.
Old Church on west side, Westray.
Pierswall Church, Westray.
The Dwarfie Stone, Hoy.
The earth house known as the Gallery.
Grave at Grain, near Kirkwall.
The chambered mound of Maeshowe, at Stennis.
The Ring of Brogar and other stones at Stennis, and the neighbouring stones.

PEEBLESSHIRE.

Neidpath Castle.
Drochil Castle.

PERTHSHIRE.

"Standing stones of St. Madoes," in the Park of Pitfour Castle.
Abernethy Round Tower.
Muthill Kirk Tower.
Dunkeld Cathedral Nave.
Tullibardine Kirk.
Doune Castle.
Brig of Earn, near Perth.
Teith Bridge, near Doune.
Elcho Castle.
Stobhall Castle.
Tullyalan Castle.
Huntingtower.
Sculptured stone, Abernethy.
Sculptured stone, Bruceton Farm, Alyth.
Sculptured stone at Strowan Church.
Sculptured stone called "The Bore Stone of Gask," at Moncrieffe House, Dunbarney.
Sculptured stone, King's Park, Dunkeld.
Sculptured stone at Fowlis-Wester.
Sculptured stone called the "Dunfallandy Stone," at Dunfallandy House, Pitlochry.
Sculptured stone in Churchyard, Logierait.
Two sculptured stones in Churchyard, St. Madoes.

RENFREWSHIRE.

Three sculptured stones in churchyard, Inchinnan.
Sculptured cross at Arthurlee House, Neilston.
Crookston Castle.
Newark Castle.
The Tolbooth Steeple, Glasgow.

ROSS-SHIRE.

Sculptured stone in churchyard, Dingwall.
"Clach Chairidh" sculptured stone, Edderton.
Sculptured stone in old churchyard, Edderton.
Sculptured stone, near Railway Station, Strathpeffer.
Sculptured cross slab in the churchyard, Nigg.
Sculptured cross slab, Shandwick.
Sculptured cross slab, near wall of the church, Rosemarkie.
Sculptured stone, Rosskeen.
Totaig Broch ("Caisteal Grugay") Glenshiel.
The stones at Callernish.
The broch at Carloway.

ROXBURGHSHIRE.

Hermitage Castle.
Smailholm Tower.
Fernieherst Castle.
Kelso Abbey.
Jedburgh Abbey.
Canongate Bridge, Jedburgh.

SCHEDULED MONUMENTS—*continued.*

SELKIRKSHIRE.

Sculptured stone at Whitehope Farm, Yarrow.

SHETLAND.

The broch at Clickamin, near Lerwick.
The broch at Mousa.
Scalloway Castle.

STIRLINGSHIRE.

Roman Wall (Clyde-Forth) Castlecary Roman fort, Falkirk.
Roman Wall (Clyde-Forth) section from Oakdene, Camelon to Bonnyside House, including Rough Castle, Falkirk.
Roman Wall (Clyde-Forth) section in Seabegs Wood, Falkirk.
Inchmahorne Priory.
Cambuskenneth Abbey.
" Mar's Wark," Stirling.
The Old Bridge, Stirling.

SUTHERLANDSHIRE.

Sculptured cross in the churchyard, Farr.
Sculptured cross at Grumbeg, Loch Naver.
Sculptured cross at Klibreck, Loch Naver.
The Dun of Dornadilla.

WIGTOWNSHIRE.

Cairnscarrow cairn, Inch.
Teroy broch, Craigcaffie, Inch.
Innermessan mote, Inch.
Boreland mote, Kirkcowan.
Ring Hill fort, North Balfern, Kirkinner.
High Drummore mote, Kirkmaiden.
Eldrig Cairn, Mochrum.
"Doon of May" vitrified fort, May.
Cruise Back Fell fort, Upper Galdenoch.
Mid-Gleniron group of cairns, New Luce.
" Cairn Kenny " chambered cairn, High Murdonochee.
Bennan of Garvilland fort, New Luce.
Stairhaven broch, Old Luce.
High Gillespie long cairn, Old Luce.
Skaith mote, Penninghame.
Cairn Pat hill fort, Port Patrick.
" Doon Castle " broch, Ardwell.
Torhousekie fort, Wigtown.
Cairns near Cairn House, Wigtown.
Torhousekie stone circle, Wigtown.
" Castle Feather " fort, Burrow Head, Whithorn.
Burrow Head forts, Whithorn.
Cross slab at Corsewell House, Kirkcolm.
Craig Caffie Tower.
Whithorn Priory Church.
The semi-circular earthwork at Barsalloch.
The standing stone at Blairbowie, known as the Wren's Egg.
The mote hill at Druchtag.
The cup-marked rock and standing stones, Drumtroddan.
The carved and inscribed stones at Kirkmadrine.
The two stones, with incised crosses, on a mound at Laggangairn.
The rectangular camp at Rispain.
The sculptured stones at Whithorn Priory.
The inscribed slab fromerly standing on the roadside leading from Wigtown to Whithorn, but now in Whithorn Priory.
St. Ninian's Cave, Whithorn.
St. Ninian's Chapel of the Isle, Whithorn.

The Protection of Ancient Monuments in Saorstát Éireann (the Irish Free State)

By Harold G. Leask, Esq., Inspector of Ancient and National Monuments, Office of Public Works, Dublin.

Ancient Monuments in Saorstát Eireann (the Irish Free State) are dealt with under the following Acts :—

(1) The Irish Church Act, 1869, Section 25, under which the Commissioners of Church Temporalities by their vesting order of 30th October, 1880, conveyed to the Commissioners of Public Works, Ireland, a large number of ruined or disused ecclesiastical buildings, crosses, round towers, etc., and other buildings, including by far the larger proportion of the disused ecclesiastical buildings of architectural importance in Ireland.

These number 137 monuments or groups of monuments and are specifically known and designated as " National " Monuments (15 of which are now in Northern Ireland) and are maintained out of the income derived from a capital sum in Consols transferred at the time of the original conveyance to the Commissioners of Public Works.

(2) The Ancient Monuments Protection Act (Great Britain and Ireland), 1882, which scheduled a number of ancient monuments, mainly prehistoric, and under which certain of the scheduled structures and others of a like character have passed into the guardianship or ownership of the Commissioners of Public Works.

(3) The Ancient Monuments Protection (Ireland) Act, 1892, which extends the provisions of the older Act to any ancient or mediæval structure which in the opinion of the Commissioners of Public Works is a matter of public interest by reason of the historic, traditional or artistic interest attaching to it.

(4) The Irish Land Acts of 1903, Section 14, and 1923, Section 27, under which the Land Commission can vest and the Commissioners of Public Works are empowered to accept the ownership of ancient monuments situated upon lands dealt with by the Land Purchase Commissioners, the provisions of the Ancient Monuments Protection Acts thereupon applying to the accepted structures.

Where the Commissioners of Public Works do not accept such monuments the County Councils, under the Local Government Act (Ireland), 1898, Section 19, may exercise similar powers to the Commissioners of Public Works under the Acts.

The total number of monuments or groups of monuments of which the Commissioners of Public Works are owners or guardians is 240, a number which, under the operation of the Land Acts in particular, is increasing annually. Some of the groups of monuments cover a considerable area and include as many as 10 or 12 separate structures.

The only schedule of monuments is that of the Act of 1882 and an Order in Council (June, 1890) prescribing certain other monuments to be of a like character to those scheduled in 1882.

National and Ancient Monuments

Compiled by HAROLD G. LEASK, Esq., Inspector of Ancient and National Monuments, Office of Public Works, Dublin.

LIST OF MONUMENTS SHOWING THE FOLLOWING CLASSIFICATION.

Class A.—National Monuments vested in the Commissioners of Public Works by the Commissioners of Church Temporalities by Vesting Order dated 30th October, 1880, made in pursuance of the Irish Church Act, 1869, Section 25.

Class B.—Ancient Monuments scheduled under the Ancient Monuments Protection Act, 1882.

Class C.—Ancient Monuments of which the Commissioners of Public Works have been constituted Guardians under Section 2 of the Ancient Monuments Protection Act, 1882.

Class D.—Ancient Monuments of which the Commissioners of Public Works have consented to become Guardians under Section 1, Ancient Monuments Protection Act, 1892.

Class E.—Ancient Monuments under the Land Acts of 1903 and 1923, the Commissioners of Public Works being constituted owners.

ULSTER.

No. in Register	Class	County	Townland	Description
4	A	Cavan	Drumlane	Ruins of Church and Round Tower.
139	B & C	Donegal	Kilaned	Stone Monuments and groups of Sepulchral Cists in Glenmaulin.
25	B	Do.	Clonca	Ruins of Church, Stone Pillar, and Cross.
140	B & D	Do.	Carrowreagh	Earthen and Stone Enclosure known as "Grianan of Aileach."
23	A	Do.	Ray	Ruins of Church and prostrate Cross.
24	A	Do.	Tory Island	Round Tower, Abbey, Two Crosses, etc.
174	D	Do.	Donegal	Ruins of Ancient Castle and Walls.
175	D	Do.	Glebe	Ruins of an Ancient Abbey.
111	A	Monaghan	Crossmoyle	Ruins of Round Tower and Abbey.
112	A	Do.	Clones	Ruins of old Cross in Diamond of Clones.
208	D	Do.	Inishkeen Glebe	Ruins of Round Tower.

LEINSTER.

207	D	Dublin	Kill of the Grange	Ruins of Church.
3	A	Carlow	St. Mullins	Ruins of Monastery, Seven Churches, etc.
157	B & D	Dublin	Lusk	Round Tower, Lusk.
36	A	Do.	Howth	Ruins of Church and Abbey.
37	A	Do.	St. Dolough's	Ruins of St. Dolough's Church and Cell.
		N.B.—Vesting inoperative—Church and Cell used for Divine Service.		
34	A	Dublin	Dublin	The Portlester Chapel, with Ruins adjoining same.
33	A	Do.	Dalkey Island	Ruins of Church of St. Benedict.
35	A	Do.	Killiney	Ruins of Church.
162	B & C	Do.	Rathmichael	Round Tower of Rathmichael, Church and Stone Cross.

NATIONAL AND ANCIENT MONUMENTS IN LEINSTER—*continued.*

No. in Register	Class	County	Townland	Description
32	A	Dublin	Clondalkin	Round Tower, Granite Cross, and Remains of early Monastery.
71	A	Kildare	Old Kilcullen	Ruins of Abbey, Church, Round Tower, and Cross.
200	D	Do.	Castledermot	Abbey of Castledermot.
70	A	Do.	Taghadoe	Round Tower.
190	D	Do.	Oughterard	Round Tower and Church.
74	A	Kilkenny	Grangefertagh	Round Tower.
78	A	Do.	Ullard	Ruins of Church.
79	A	Do.	Cappagh	Kilkeeran Stone Cross.
80	A	Do.	Jerpoint Abbey	Ruins of Abbey, etc.
161	B & D	Do.	Tullaherin	Round Tower of Tullaherin.
191	D	Do.	Thomastown	Thomastown Church.
77	A	Do.	Clonamery	Ruins of Church.
75	A	Do.	Killamery	Killamery Stone Cross.
76	A	Do.	Kilree	Ruins of Church, Round Tower, and Cross.
180	D	Do.	Rathduff	Ruins of Kells Abbey.
72	A	Do.	Kilkenny	Ruins of Franciscan Abbey.
73	A	Do.	Knocktopher	Ruins of Ancient Church of Tubber na Druidh.
73	A	Do.	Sheepstown	Ruins of Church of Sheepstown.
82	A	King's	Rahan	Ruins of Two Churches.
81	A	Do.	Clonmacnoise	Ruins of Churches, Two Round Towers, Crosses, etc.
91	A	Longford	Inchcleraun	Ruins of Seven Churches, Abbey, etc.
144	B	Louth	Greenmount	The Earthen Mound at Greenmount.
93	A & D	Do.	Mellifont	Ruins of Cistercian Abbey of Mellifont, and Conventual Buildings. Ruins of Mellifont Castle and Chapel of St. Bernard.
94	A	Do.	Monasterboice	Monasterboice Church, Round Tower, and Three Crosses.
178	D	Do.	Termonfeckin	Ruins of Castle.
92	A	Do.	Dromiskin	Ruins of Round Tower, etc.
179	D	Meath	Abbeyland	The Priory of Duleek.
199	D	Do.	Duleek	Old Stone Church.
151	B & C	Do.	Corstown	The two Central Tumuli on the hills called Slieve na Calliagh.
107	A	Do.	Dulane	Ruins of Chapel in Graveyard, and Ancient Crosses in Kiem Churchyard.
108	A	Do.	Town Parks	St. Columb's House, Kells.
149	B	Do.	Teltown	The Earthworks at Teltown (Taltin).
158	B & D	Do.	Town Parks	Round Tower, Kells.
150	B & C	Do.	Wardstown	The Earthworks at Wardstown (Tlaghta).
110	A	Do.	Newtown	Ruins of Cathedral.
186	D	Do.	Trim	Yellow Steeple.
187	D	Do.	Bective	Bective Abbey.
106	A	Do.	Donaghmore	Donaghmore Church and Round Tower.
109	A	Do.	Skreen	Ruins of Church and Two Stone Crosses.
148	C	Do.	Castletown, Tara	The Earthworks on the Hill of Tara.
147	B & C N.B.—Knowth—B only.	Do.	Knowth, Dowth	The Tumuli, New Grange, Knowth and Dowth.
188	D	Do.	Slane	The Abbey and Ruins on the Hill of Slane.
113	A	Queen's	Errill	Ruins of Church, Monastery, and Cross.
114	A	Do.	Fossy Lower	Ruins of Church.
			Timahoe	Round Tower and Abbey.
115	A	Do.	Sleaty	Ruins of Church.
116	A	Do.	do.	Ruins of Church and Two Crosses.

NATIONAL AND ANCIENT MONUMENTS IN LEINSTER—*continued.*

No. in Register	Class	County	Townland	Description
155	B	Westmeath	Usnagh Hill	The Stone Monument called "The Catstone," and the Cemetery on the Hill of Usnagh.
133	A	Wexford	Ferns Upper	Ruins of Augustinian Monastery, Two Churches and Cross.
192	D	Do.	Dunbrody	Dunbrody Abbey.
134	A	Wicklow	Lugduff, Carmaderry, Derrybawn Brockagh	The Ruins of the Seven Churches, with the Round Tower, Stone Crosses, and the other Ecclesiastical Buildings or Structures.
135	A & D	Do.	Woodlands	Ruins of St. Mary's Church, Downs Mill.
*136	A	Do.	Delgany	Ruins of Old Church and St. Crispin's Cell.
137	A	Do.	Aghowle Lower	Ruins of Old Parish Church and Cross.
203	D	Do.	Baltinglass East	Old Church of St. Mary, Baltinglass.

CONNAUGHT.

41	A	Galway	Inisheer	Great Fort, with stone-roofed Cells, and O'Brien's Castle. Fort with Mound and Monument. Ruins of Church—Kill-Gobnet, etc. Ruins of Church—Burial-place of Seven Daughters. Ruins of Church—Tempúl Caomhan.
42	A	Do.	Carrowntemple Carrownlisheen	Fort Mothar Dún. Fort of Conor. Ruins of Church—Kill Cononagh. Ruins of Church—Tempúl Caireach Derquin.
45	A	Do.	Onaght Killaney	Fort Dún Engus. Fort Dún Eochla. Dubh Cathair or the Black Fort. Ruins of Church—Tempúl Benin, with rectangular Enclosure and group of Cells. Ruins of Church—Tempúl Brecan and Cross. Ruins of Church—Tempúl beg mac Dara. Ruins of Church—Tempúl more mac Dara. Ruins of Church—Tempúl Assurniadhe. Ruins of Church—Tempúl Ciara Monastir. Ruins of Church—Tempúl à Phoill. Ruins of Church—Tempúl an Cheathrair Aluin. Ruins of Church—Teglach Enda (St. Enda's Church).
164	D	Do.	Athenry	Dominican Priory, known as Athenry Abbey.
82	A	Do.	High Island and Kill	Stone-roofed Cells and Ruins of Church.
49	A	Do.	Annaghdown	Ruins of Two Churches, Round Tower, etc.
50	A	Do.	Ross	Ruins of Ross Abbey.
165	D	Do.	Claregalway	Claregalway Abbey.

*136. Board's rights of ownership here have become extinguished, through not having been exercised. The ruins are claimed by the owner of the adjoining lands.

NATIONAL AND ANCIENT MONUMENTS IN CONNAUGHT—*continued.*

No. in Register	Class	County	Townland	Description
46	A	Galway	Roscam and Innplot	Round Tower and Ruins of Church.
48	A	Do.	Tonlegee	Ruins of Church, Round Tower.
47	A	Do.	Abbeyfield	Ruins of Church, Abbey, Well, and Cross.
51	A	Do.	Kilmacduagh	Ruins of Church, Monastery, Round Tower, etc.
206	D	Do.	Fiddaun	Ruins of Fiddaun Castle.
44	A	Do.	Kilmurry	Fort Muirbheach Mill, Church, Clochans, etc.
45	A	Do.	Oghill More	Fort Blackfort, several Cells and Churches.
166	D	Do.	Abbey	Knockmoy Abbey.
69	A & D	Leitrim	Creevelea	Ruins of Monastery.
68	A	Do.	Fenagh	Ruins of Monastery, Abbey, etc.
96	A	Mayo	Aghagower	Round Tower and Church.
100	A	Do.	Turlough	Ruins of Church and Round Tower.
172	D	Do.	Strade	Strade Abbey.
101	A	Do.	Ballintober	Ruins of Abbey, etc.
99	A & D	Do.	Fallmore	Ruins of Church of St. Dairbhilé.
99	A	Do.	Inishglora	Ruins of St. Brendan Oratory, Three Churches, Cashel, etc.
98	A	Do.	Meelick	Ruins of Church and Round Tower.
95	A	Do.	Shrule	Ruins of Church and Abbey.
95	A	Do.	Kinlough	Ruins of Church and Castle.
102	A	Do.	Inishmaine	Ruins of Inishmaine Abbey.
146	B	Do.	Glebe	Cairns and Stone Circles at Moytura.
97	A	Do.	Lecarrow	Ruins of Church, etc., on Clare Island.
196	D	Do.	Carrowkeel	Murrisk Abbey.
198	D	Do.	Glen	The Church and Granuailé's Castle.
103	A	Do.	Abbeylands	Ruins of Moyne Abbey.
104	A	Do.	Rosserk	Ruins of Rosserk Abbey.
105	A	Do.	Town Plots West	Killala Round Tower.
145	B & C	Do.	Ballina	The Stone Monument at Ballyna.
181	D	Roscommon	Cloonbrackna	Roscommon Castle.
167	D	Do.	Knocknashee	Boyle Abbey.
117	A	Sligo	Inishmurry	Church of St. Morlaise, Stone Roofed Cells and other ancient Monuments on this Island.
118	A	Do.	Church Island	Ruins of Church.
119	A	Do.	Drumcliffe South	Ruins of Churches, Monastic Buildings, Round Tower, and Two Crosses.
189	D	Do.	Sligo	Sligo Abbey.
153	B & C	Do.	Carrowmore	Sepulchral remains at Carrowmore, the Cairn called Miscaun Mave or Knocknarea.
159	B & D	Do.	Clogher	Stone Cashel, with Galleries.
152	B	Do.	Heapstown	The Cairn at Heapstown.

MUNSTER.

5	A	Clare	Inishcaltra or Holy Island	Ruins of Seven Churches, Round Tower, etc.
14	A	Do.	Inchicronan Island	Ruins of Parish Church and Abbey.
15	A	Do.	Quinn	Ruins of Quinn Abbey.
11	A	Do.	Abbey West	Ruins of Corcomroe Abbey.
12	A	Do.	Oughtmama	Ruins of Three Churches.
13	A	Do.	Termon	Ruins Tempúl Chrónain, or St. Cronan's Church, Tarmon.
195	D	Do.	Canon Island	Canon Island Abbey.
7	A	Do.	Kilcarragh	Ruins of Church.
8	A	Do.	Kilfenora	Ruins of Chancel of Cathedral and Stone Crosses adjoining.
9	A	Do.	do.	Ruins of Franciscan Abbey.

NATIONAL AND ANCIENT MONUMENTS IN MUNSTER—*continued.*

No. in Register	Class	County	Townland	Description
16	A	Clare	Mollaneen	Ruins of Church, Round Tower, Carved Cross.
17	A	Do.	Portlecka	Ruins of Ruane Church.
170	D	Do.	Ennis	Old Parish Church of Drumcliff in town of Ennis, with Ruin and Burial Ground adjacent.
204	D	Do.	Dromcliffe	Dromcliffe Church and Round Tower.
197	D	Do.	Clare Abbey	Clare Abbey.
176	D	Do.	Newhall	Killone Abbey.
10	A	Do.	Scattery Island	Ruins of Seven Churches, Round Tower, etc.
6	A	Do.	Shantraud	Ruins of St. Flannan's Church.
20	A	Cork	Derreennachusa	Ruins of Church of St. Finbar on Island.
22	A	Do.	Ballyeiragh North	Ruins of St. Kiaran's Church, Stone with inscribed Cross, etc.
169	D	Do.	Farranacouse	Sherkin Island Abbey.
18	A	Do.	Labbamolaga	Ruins of Churches, Cashel, St. Molaga's Bed, etc.
21	A	Do.	Timoleague	Ruins of Church and Abbey.
19	A	Do.	Titeskin	Ruins of Church, with Carving of Crucifixion.
182	D	Do.	Kilcrea	Kilcrea Abbey.
202	D	Do.	Buttevant	The Old Abbey of Buttevant.
54	A	Kerry	Ardfert	Ardfert Cathedral and Ruins of Two Churches.
55	A	Do.	Rattoo	Ruins of Church, Abbey, Round Tower, etc.
62	A	Do.	Ballymorreagh	Ruins of Tempúl Gêl (The White Church).
63	A	Do.	Inishabro Inishvickillane Inishtooskert	Ruins of Church in Great Island. Ruins of Church and Stone-roofed Cells. Ruins of St. Brendan's Oratory, Cells, and Crosses.
64	A	Do.	Ballintaggart Garfinny	Ogham Stones in Burial Ground. Ruins of Church and Friary.
65	A	Do.	Kilmalkedar Gallarus	Ruins of Castle, Ogham Stones, and Cells. Ruins of Church.
66	A	Do.	do.	Gallarus Church.
67	A	Do.	Illauntannig Illaunmill	Cashel, Oratories, etc. Ruins of Churches, Monastery Cells, and Cross.
156	B & D	Do.	Glenfahan	Cahernamactierleh and Beehive Structures on the Promontory of Dingle.
184	D	Do.	Beheenagh	Caherconree.
177	D	Do.	Fahan	Remains of Dunbeg Fort.
143	B & D	Do.	Staigue	Stone Structure called Staigue Fort.
59	A	Do.	Church Island	Ruins of Church.
60	A	Do.	do.	Ruins of St. Finian's Church and Three Stone-roofed Cells.
61	A	Do.	Great Skellig Rock	Ruins of Church of St. Michael's Rock, Stone-roofed Cells, etc.
168	D	Do.	Ballinskelligs	Ballinskelligs Abbey.
53	A	Do.	Parkavonear	Ruins of Cathedral and Round Tower.
183	D	Do.	Innisfallen	Ruins on Innisfallen Island.
56	A	Do.	Annagh	Ruins of Church and Sculptured Stones.
57	A	Do.	Ratass	Ruins of Church.
*58	A	Do.	Ballyseedy	do.
84	A	Limerick	Clonkeen (Barrington)	Ruins of Early Church.
185	D	Do.	Moig South	Askeaton Abbey.
201	D	Do.	Aghalacka	Askeaton Castle.

*58. The Board withdrew on the 28th of August, 1906, from the guardianship of this monument.

NATIONAL AND ANCIENT MONUMENTS IN MUNSTER—*continued.*

No. in Register	Class	County	Townland	Description
83	A	Limerick	Carrigeen	Ruins of Church and Round Tower.
171	D	Do.	Manister North	Manister Abbey.
86	A	Do.	Lower Lacka	Ruins of Church.
173	D	Do.	Kilmallock	King's Castle.
85	A	Do.	Dromdarrig	Ruins of Monastery. Ruins of Church, East of Monastery. Ruins of Tower and Gateway. Ruins of Building, north of Church.
			Castle Mungret	Ruins of Temple Mungret, half a mile north of Church. Ruins of Hermitage at east end of Parish.
194	D	Do.	Barrysfarm	Ancient Church of Hospital.
120	A	Tipperary	Athassel	Ruins of Monastic Buildings, Abbey, etc.
121	A	Do.	Holycross	Ruins of Monastery, etc.
124	A	Do.	Ahenny	Kilclispeen, Two Stone Crosses.
122	A	Do.	Donaghmore	Ruins of Church.
123	A	Do.	Ballynoran	do.
125	A	Do.	Mona-incha	Ruins of Monastery and of the Women's Church.
126	A	Do.	Townparks	Round Tower and Church of St. Cronan.
127	A	Do.	Hore Abbey	Ruins of Hore Abbey, Dominican Church, etc.
128	A	Do.	St. Patrick's Rock	The Ruins of Ancient Cathedral Church in "The Rock of Cashel," with the land adjacent thereto.
193	D	Do.	St. Dominick's Abbey	St. Dominick Abbey.
131	A	Waterford	Dysert	Ardmore Cathedral, Round Tower, and St. Declan's Tomb in the same enclosure.
154	B	Do.	Drumlohan	The Cave containing Ogham-inscribed stones at Drumloghan.
132	A	Do.	Mothel	Ruins of Abbey.
205	D	Do.		Ruins of Old Franciscan Priory known as French Church.

Additional List of Ancient Monuments, principally Monuments vested under the Land Acts, but including guardianship cases under Act of 1892 (Class E)

Compiled by HAROLD G. LEASK, Esq., Inspector of Ancient and National Monuments, Office of Public Works, Dublin.

LEINSTER.

No. in Reg.	County	Townland	Description
216	Dublin	Laughanston	Two Celtic Crosses, two cairns, the bases of two Crosses.
225	Do.	do.	Tully Church.
226	Do.	Kilgobbin	Kilgobbin Cross.
230	Do.	Dunsoghly	Dunsoghly Castle.
214	Kilkenny	Gowran	St. Mary's Church.
253	Do.	Granny	Grannagh.
250	King's	Clonmacnoise	Castle or Bishop's Castle and Nuns' Church.

ADDITIONAL LIST OF MONUMENTS IN LEINSTER—*continued.*

No. in Reg.	County	Townland	Description
249	Louth	Liberties	King John's Castle, Carlingford.
263	Longford	Moatfield	Moat of Granard.
232	Meath	Donore	Donore Castle.
239	Do.	Ardsallagh	Cannistown Church.
256	Do.	Robertstown	Robertstown Castle.
257	Do.	Killeen	Killeen Church.
261	Do.	Odder	Rath Meave.
264	Do.	do.	Cruicetown Church and Cross.
213	Westmeath	Inchbofin	Inchbofin Abbey.
215	Do.	Fore	Fore Abbey.
220	Do.	do.	Fore Gateways.
223	Do.	Twyford	Twyford Cross.
265	Do.	Glebe	Taghmon Church.
229	Wexford	Rathumney	Rathumney.
262	Wicklow	Newcourt	Raheen-a-cluig Church.
267	Do.	Kilcoole	Kilcool Old Church.

CONNAUGHT.

231	Galway	Ower	Killursa Church.
242	Do.	St. MacDara's Island	St. MacDara's Church.
245	Do.	Drumsnauv	Castlekirk Castle.
248	Do.	Castlefarm	Dunmore Castle.
252	Do.	Ardamullivan	Ardmullivan Castle.
254	Do.	Drumacoo	Drumacoo Orse Newtown Church and St. Sourney's Well and Cross.
259	Do.	Castletown	Kiltartan Castle.
223	Mayo	Castlecarra	Burriscarra Abbey Church and Castle.
235	Do.	Carrowkeel	Burrishoole Abbey.
243	Do.	Aghalahard	Aghalahard Castle.
244	Do.	Caherduff	Caherduff Castle.
246	Do.	Carn	Eochy's Cairn.
251	Do.	Ballymagibbon North	Ballymagibbon Cairn.

MUNSTER.

224	Clare	Toonagh	Cregnakeeroge Fort, etc.
233	Cork	Cappeen West	Cahervagliair Fort and Cave.
240	Do.	Conna	Conna Castle.
255	Do.	Carrigaphooca	Carrigaphooca Castle and Stone Circle.
221	Kerry		Beehive Structures, etc.
227	Do.		Cahergall Fort.
228	Do.	Cloghanecarhan	Cloghanecarhan Caher and Ogham Stone.
236	Do.	Parkavonear	Parkavonear Castle.
238	Do.	Callanafersy West	Callanafersy Rath.
258	Do.	Lislaughtin	Lislaughtin Abbey.
260	Do.	Listowel	Listowel Castle.
212	Limerick	Abbeyfarm	Kilmallock Abbey.
247	Do.	Loughgur, Grange, Knockfennell	Lough Gur, Megalithic remains.
211	Tipperary	Roscrea	Roscrea Castle.
218	Do.	Kilcooly Abbey	Kilcooly Abbey.
234	Do.	Ballynahow	Ballynahow Castle.
266	Do.	Leigh	Leighmore-Mochoimog (Leighmore Church).
237	Waterford	Matthewstown	Matthewstown Cromlech.

List of Ancient Monuments in Northern Ireland, in the Public Charge, under the provisions of the Ancient Monuments Act (Northern Ireland), 1926

Compiled by D. A. CHART, Esq., The Ministry of Finance, 15, Donegall Square West, Belfast.

WITH the Governmental changes of 1920-21 a number of ancient structures in Ulster which were formerly in the care of the Commissioners of Public Works, Dublin, passed to their successors, the Ministry of Finance for Northern Ireland. These remains, which range in period from the prehistoric dolmen* and earthwork to the mediæval church, are scattered over the whole of the six counties and afford many features of interest and beauty.

The following list relates to ancient monuments that are in the charge of the Government of Northern Ireland. There are no " scheduled " monuments that are not in the charge of the Government for protection.

Carrickfergus Castle, Co. Antrim.
Cloghbrack (" Ossian's Grave "), Lubitavish, Co. Antrim.
Cranfield Church, Co. Antrim.
Giant's Ring, Ballylesson, Co. Down.
Movilla Abbey, Co. Down.
Greyabbey, Co. Down.
Inch Abbey, Co. Down.
Loughinisland, Co. Down.
Ardtole Church, Co. Down.
St. John's Point Chapel, Co. Down.
Dromore Cross, Co. Down.
Killevy Church, Co. Armagh.
Tynan Cross, Co. Armagh.
Navan Fort, Co. Armagh.
Arboe Cross, Co. Tyrone.
Donaghmore Cross, Co. Tyrone.
Devenish Island, in Lough Erne, near Enniskillen.
Inishmacsaint Cross, Lower Lough Erne, near Enniskillen.
Maghera Church, Co. Londonderry.
Dungiven Priory Church, Co. Londonderry.
Bovevagh Church, Co. Londonderry.
Banagher Church, Co. Londonderry.

*NOTE.—The expression " dolmen " is used instead of " cromlech," as being less ambiguous to foreign readers.

THE OLD PRIEST'S HOUSE, MUCHELNEY, near Langport, Somersetshire, repaired under the supervision of the Society for the Protection of Ancient Buildings. Acquired for preservation by the National Trust in 1911.

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See letter in the *Times* of January 27th, 1926, by Lord Richard Cavendish, on "Village Craftsmen." Further particulars may be obtained from the Secretary to the Bureau.

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GEORGE H. DUCKWORTH, Esq., C.B., F.S.A., 66, Victoria Street, Westminster, S.W.1.

THE Royal Commission on Historic Monuments (England) was appointed on the 27th of October, 1908, under the sign manual of Edward VII, to make an inventory of the ancient monuments connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people of England, excluding Monmouthshire, from the earliest times to the year 1700, and to specify those which seem most worthy of preservation. The Commission originally consisted of Lord Burghclere (Chairman); the Earl of Plymouth; Viscount Dillon; the present Earl of Crawford and Balcarres; Sir Henry H. Howarth, K.C.I.E., President of the Royal Archæological Institute; Sir John Francis F. Horner, K.C.V.O.; James Fitzgerald, Esq., C.I.S.O., Assistant Secretary of the Commissioners of Works; John G. N. Clift, Esq., Hon. Secretary of the British Archæological Association; Prof. Francis J. Haverfield, D.Litt., Camden Professor of Ancient History at Oxford; Ernslie J. Horniman, Esq., and Leonard Stokes, Esq., Past President of the Royal Institute of British Architects, with George H. Duckworth, Esq., C.B., F.S.A., as Secretary. The vacancy caused by the death of Mr. James Fitzgerald was subsequently filled by the appointment of the Hon. Sir Schomberg Kerr McDonnell, K.G., C.V.O., K.C.B.

On the 26th of May, 1910, George V reappointed the Commission, as its work was in progress on his accession. Yet, on the 29th of November, 1913, His Majesty determined the warrants, but reappointed the same Commissioners, subject to their proceedings covering the period up to the year 1714, instead of up to 1700. On the 8th of August, 1921, the King added to the members of the Commission Sir Arthur J. Evans, D.Litt., LL.D. F.R.S.; Sir Charles Hercules Read, LL.D., F.B.A., then President of the Society of Antiquaries; Montague R. James, Esq., D.Litt., LL.D., Provost of Eton College; Duncan H. Montgomerie, Esq.; William Page, Esq.; and Charles R. Peers, Esq., C.B.E., M.A., Dir. S.A.

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THE Royal Commission on Historic Monuments (Wales) was appointed on the 10th day of August, 1908, under a warrant of Edward VII, to make an inventory of the ancient monuments connected with or illustrative of the contemporary culture, civilisation, and conditions of life of the people of Wales and Monmouthshire from the earliest times, and to specify those which seem most worthy of preservation. The Commission originally consisted of Sir John Rhys, Principal of Jesus College and Professor of Celtic at Oxford (Chairman); Edward Anwyl, Esq., M.A., Professor of Celtic in the University College of Wales, Aberystwyth; Prof. Robert C. Bosanquet, M.A., Professor of Classical Archæology at Liverpool; Robert Hughes, Esq., President of the Cardiff Cymmrodorion Society; the Rev. Griffith H. Jones, D.D., Rector of Nutfield; Lieut.-Colonel William E. L. Morgan; and Sir Evan Vincent Evans, F.S.A., Secretary of the Honourable Society of Cymmrodorion; with Edward Owen, Esq., F.S.A., as Secretary, and Philip E. Thomas, Esq., B.A., as Assistant Secretary.

On the 26th of May, 1910, George V reappointed the Commission, as its work was in progress on his succession. Vacancies by death were subsequently filled by the appointment of Henry Owen, Esq., D.C.L., F.S.A.; Colonel J. A. Bradney, C.B.; and Sir John Morris-Jones.

It is worthy of note that the Royal Commission for Wales is apparently able to exercise its discretion regarding monuments worthy of preservation, and is not expressly prevented, like the Royal Commission for England, from dealing with remains of a later date than 1714.

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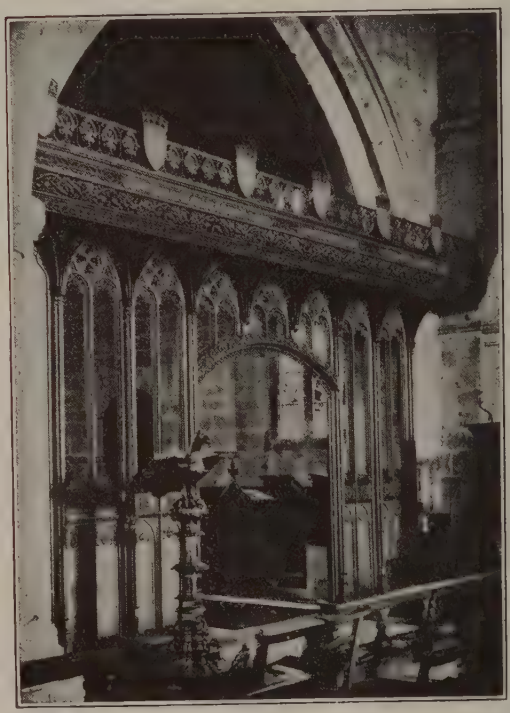

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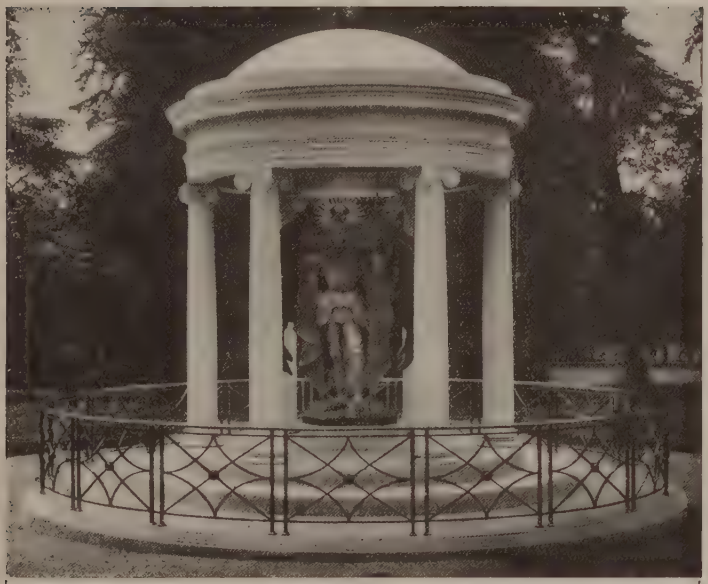

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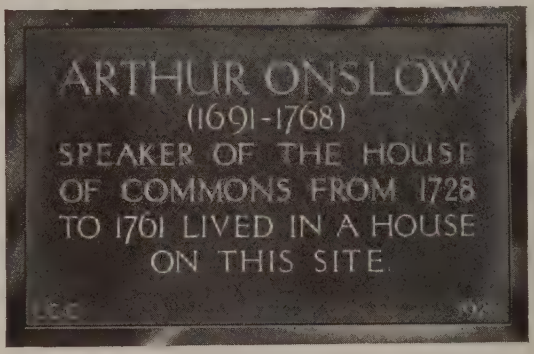

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G. P. K. Young, Esq., F.R.I.B.A.

Secretary and Treasurer:
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INVERNESS ARCHITECTURAL ASSOCIATION.

President:
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Secretary:
D. Noble, Esq., 2, Church Street, Inverness.

STIRLING NATURAL HISTORY AND ARCHÆOLOGICAL SOCIETY.

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President:
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Secretary:
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IRELAND

THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

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President:
R. A. S. Macalister, Esq., Litt.D., F.S.A.

Hon. General Secretary:
W. G. Strickland, Esq., M.R.I.A., 63, Merrion Square, Dublin.

THE CORK HISTORICAL AND ARCHÆOLOGICAL SOCIETY.

(70, Patrick Street, Cork.)

President:
Colonel James Grove-White, C.M.G., D.L.

Hon. Secretary:
Dr. Philip G. Lee, F.R.S.A., 10, St. Patrick's Hill, Cork.

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LIST OF KINDRED SOCIETIES—*continued.*

IRISH ARCHÆOLOGICAL AND CELTIC SOCIETY.

Historical Literature of Ireland.

Secretary:
12, Booterstown Avenue, Blackrock, Co. Dublin.

THE IRISH LITERARY SOCIETY.

(49-51, Windsor House, Victoria Street, Westminster, S.W.1.)

President:
R. A. KING, Esq., M.A.
Secretary:
Miss K. BARRY WALSH.

THE IRISH MEMORIALS ASSOCIATION.

Secretary:
T. U. SADLEIR, Esq., Temple Mills, Celbridge.

IRISH TEXTS SOCIETY.

President:
Professor DOUGLAS HYDE, Litt.D., LL.D., M.R.I.A.
Joint Hon. Secretaries:
Miss E. HULL.
T. D. FITZGERALD, Esq., B.A., c/o National Bank Ltd., Charing Cross, Westminster, S.W.1.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND (INCORPORATED).

(Allied to the Royal Institute of British Architects.)

(8, Merrion Square North, Dublin.)

President:
JAMES H. WEBB, Esq.
Hon. Secretary:
JOHN L. ROBINSON, Esq., L.R.I.B.A., 8, Merrion Square North, Dublin.

THE ULSTER SOCIETY OF ARCHITECTS (INCORPORATED).

(Allied to the Royal Institute of British Architects.)

(91, Scottish Provident Buildings, Donegall Square West, Belfast.)

President:
JOHN SEEDS, Esq.
Hon. Secretary:
R. H. GIBSON, Esq., 16, Donegall Square South, Belfast.
Secretary:
J. LINDSAY MAGEE, Esq., 91, Scottish Provident Buildings, Donegall Square West, Belfast.

Part III

Matter for the benefit of Owners, Architects and others relating to the causes of decay and methods of reparation, reinstatement, etc., with Lists of Artists, Craftsmen and Firms recommended for various kinds of work, and a List of Manufacturers of suitable Building Materials, accessories, etc.

TEMPLE BAR, in its original position, in the Strand, prior to its demolition and re-erection at Theobalds Park, Cheshunt, Herts.

Enquiry Bureau for Owners and others desiring advice

OWNERS of ancient buildings and others desirous to ensure their reparation or reinstatement in an appropriate manner may apply to the Editor for advice regarding methods of procedure and in order to obtain particulars regarding artists, specialists or firms who might be employed. The Editor would also endeavour, in an honorary capacity, to give general advice regarding architectural matters and structural problems or to obtain the opinions of specialists, for the benefit of those directly concerned in the reparation of ancient buildings.

All communications regarding such matters should be addressed to the Editor, Mr. JOHN SWARBRICK, F.R.I.B.A., 30, St. Ann Street, Manchester, and endorsed in the top left-hand corner of the envelope—" N.A.M.Y.B. Enquiry Bureau."

Part III

Section A

List of distinguished Artists and Craftsmen specially recommended on account of their reputation and the excellence of their work

(This list is by no means complete, and it is hoped that those who can recommend other Artists and Craftsmen will communicate with the Editor : Mr. JOHN SWARBRICK, F.R.I.B.A., 30, St. Ann Street, Manchester.)

Embroiderers

MRS. EELES, 33, Antrim Mansions, Hampstead, London, N.W.3.

MISS MARY SYMONDS, 399, Oxford Street, London, W.1.

MISS EVELINE TAIT, 23, Kidderpore Avenue, Hampstead, London, N.W.3.

Illuminators

JESSIE HAYES, 82, Fellows Road, London, N.W.3.

EDITH M. TANN, Littlegarth, Weydon Hill Road, Farnham, Surrey.

LIST OF ARTISTS AND CRAFTSMEN—*continued.*

Metal Workers

CAPTAIN ALWYN CARR, St. Dunstan's Studio, 2b, Melbury Road, Kensington, London, W.14.

NELSON DAWSON, ESQ., Staithe House, The Mall, Chiswick, London, W.6.

OMAR RAMSDEN, ESQ., St. Dunstan's, Seymour Place, South Kensington, London, S.W.10.

EDWARD SPENCER, ESQ., 4, Conduit Street, London, W.1.

Mural Painters

F. BRANGWYN, ESQ., R.A., Temple Lodge, Queen Street, Hammersmith, London, W.6.

SIR DAVID Y. CAMERON, LL.D., R.A., 40, Queen's Road, St. John's Wood, London, N.W.

GEORGE CLAUSEN, ESQ., R.A., 61, Carlton Hill, St. John's Wood, London, N.W.8.

VIVIAN FORBES, ESQ., Lansdowne House, Lansdowne Road, Holland Park, London, W.

MISS EMILY FORD, 23, Glebe Place, Chelsea, London, S.W.3.

COLIN GILL, ESQ., Royal College of Art, South Kensington, London, S.W.7.

MISS HILDA HENDERSON, 38, Cheyne Walk, Chelsea, London, S.W.3.

W. T. MONNINGTON, ESQ., c/o H. S. Ede, Esq., 15, Denman Drive, London, N.W.11.

GLYN W. PHILPOT, ESQ., R.A., Lansdowne House, Lansdowne Road, Holland Park, London, W.

PROFESSOR WILLIAM ROTHENSTEIN, 13, Airlie Gardens, London, W.

CHARLES SIMS, ESQ., R.A., Burlington House, Piccadilly, London, W.1.

CLEMENT O. SKILBECK, ESQ., 6, Carlton Hill, St. John's Wood, London, N.W.8.

Printer

ALEXANDER MORING, ESQ., 32, George Street, Hanover Square, London, W.1.

Sculptors

GILBERT BAYES, ESQ., 40, Boundary Road, St. John's Wood, London, N.W.

E. R. BROADBENT, ESQ., Fulham Road, London, S.W.

LIST OF ARTISTS AND CRAFTSMEN—*continued.*

Sculptors—*continued.*

W. REID DICK, ESQ., A.R.A., 1, St. John's Wood Studios, Queen's Terrace, London, N.W.

ALFRED DRURY, ESQ., R.A., Lancaster Lodge, Lancaster Gardens, Wimbledon.

SIR GEORGE FRAMPTON, R.A., 90, Carlton Hill, Maida Vale, London, N.W.

C. S. JAGGER, ESQ., M.C., Anhalt Studio, Anhalt Road, Battersea, London, S.W.11.

GILBERT LEDWARD, ESQ., Pembroke Walk Studios, Pembroke Villas, London, W.

ANDREA C. LUCCHESI, ESQ., 2, Camden Studios, Camden Street, London, N.W.1.

A. B. PEGRAM, ESQ., 12a, Park Village West, London, N.W.1.

W. REYNOLDS-STEPHENS, ESQ., 6, Mortimer Place, St. John's Wood, London, N.W.6.

F. M. TAUBMAN, ESQ., 14, Provost Road, London, N.W.3.

ALFRED TOFT, ESQ., 223, Portsdown Road, Maida Vale, London, W.

A. G. WALKER, ESQ., A.R.A., 5, Cedar Studios, Glebe Place, Chelsea London, S.W.3.

E. WHITNEY-SMITH, ESQ., 41, Priory Road, South Hampstead, London, N.W.1.

H. J. YOUNGMAN, ESQ., 18, Poulton's Square, Chelsea, London, S.W.3.

Specialist in the Reparation of Wall Paintings

PROFESSOR E. W. TRISTRAM, A.R.C.A., F.S.A., The Royal College of Art, South Kensington, S.W.

Seal Engraver and Medallist

CECIL THOMAS, ESQ., 7, Gloucester Terrace, Sussex Place, South Kensington, London, S.W.7.

Stained Glass Workers

WILLIAM AIKMAN, ESQ., 7, Camden Square, London, N.W.1.

E. LIDDALL ARMITAGE, Esq. (Successor to Mr. HENRY HOLIDAY), 43, Blenheim Crescent, North Kensington, W.11.

MISS MARY LOWNDES, 27, Trafalgar Square, Chelsea, London, S.W.3.

HORACE WILKINSON, ESQ., 101, Gower Street, London, W.C.1.

Weaver

MISS GRASETT, The Studio, 13, Old Cavendish Street, London, W.1.

LIST OF ARTISTS AND CRAFTSMEN—*continued.*

Woodcarvers

FRED ROGERS, ESQ., 37, Barnabas Road, Ebury Bridge Road, London, S.W.1.

LAURENCE A. TURNER, ESQ., 42, Lamb's Conduit Street, London, W.C.1.

Part III

Section B

List of well-known Firms specially recommended on account of their reputation and the excellence of their work

(This list is by no means complete, and it is hoped that those who can recommend other firms will communicate with the Editor: Mr. JOHN SWARBRICK, F.R.I.B.A., 30, St. Ann Street, Manchester.)

Artists, Craftsmen and Decorators

MESSRS. BATH ARTCRAFT LTD., Lower Bristol Road, Bath.

Messrs. Bath Artcraft Ltd. are Artists and Decorators, in addition to being Craftsmen in Wood, Stone, Iron, Plaster, Needlework and Tapestry. They have made a careful study of old English decorative work of all periods, and employ a large staff of trained men and women in each craft.

Stained Glass Workers

MESSRS. HEATON, BUTLER & BAYNE, 14, Garrick Street, London, W.C.2.

By special appointment to His late Majesty King Edward VII. Specialists in Stained Glass, Mural Decoration, Mosaics, etc.

Specialists in Decoration, Stained Glass and Antique Furniture.

MESSRS. MORRIS & CO., ART WORKERS, LTD., 17, George Street, Hanover Square, London, W., and Merton Abbey, Surrey.

The firm was established in 1861, by William Morris, the Founder of the Society for the Protection of Ancient Buildings. Morris & Co. reproduce the original designs for fabrics, etc., of William Morris and the stained-glass designs of the late Sir Edward Burne-Jones and Mr. Henry Dearle.

LIST OF FIRMS—*continued.*

Specialists in Cleaning and Renovating Stone, Brick, Terra-Cotta, etc.

MESSRS. THE STEAM BRUSH CO., Surrey Square, Old Kent Road, London, S.E.17, and 34, Fernleaf Street, Moss Side, Manchester.

This firm are pioneers in Steam Cleaning. They guarantee that their process is perfectly harmless and that they do not use sodas, soaps or alkalis in any way. They are entrusted by the authorities with the cleaning of the interior of the Guildhall of the City of London and other important buildings.

Designers and Craftsmen in Fibrous Plaster, Woodwork, Stained Glass and Art Metalwork

ALLIED ARTS AND CRAFTS GUILD, Imperial House, Charlotte Street, Birmingham.

This firm are well known as specialists in the design and execution of Fibrous Plasterwork, Woodwork, Stained Glass and Metalwork. They are also extensively employed in connection with remodelling schemes and in connection with the internal decoration of both ancient and modern buildings.

Craftsmen for Stained Glass, Leaded Lights, Metal Casements, and Wrought Metalwork

MESSRS. WILLIAMS, GAMON & CO. (KALEYARDS) LTD., Victoria Road, Chester.

Messrs. Williams, Gamon & Co. are Craftsmen in Metalwork and are also specialists in all kinds of leaded lights and metal casements. They also execute Memorial Tablets, etc.

Artists in Stained Glass, etc.

MESSRS. JONES & WILLIS, LTD., Ecclesia House, 69, Renshaw Street, Liverpool.

Messrs. Jones & Willis, Ltd., are widely known and extensively employed as Artists in Stained Glass, Wood and Stone, and Metalwork. They also supply Textile Fabrics and Embroideries. Their work can be inspected in their Showrooms at 43, Great Russell Street, London, W.C.; 79, Edmond Street, Birmingham; and also at Liverpool.

LIST OF FIRMS—*continued.*

Specialists in Memorial Tablets and the Preservation of Ancient Monuments

MESSRS. GAWTHORP & SONS, LTD., 4, Trafalgar Square, London, W.C.2 (formerly of 16, Long Acre), Art Metal Workers to His Majesty the King.

This firm has been entrusted with the restoration of many ancient Brasses (*e.g.*, in St. Albans Abbey) and has often worked in conjunction with the Society of Antiquaries and many well-known architects, artists, and antiquaries. For their modern work, they use a metal specially prepared from a recipe evolved after careful analyses of ancient latten and designated by the registered name of "Culn."

Stonemasons and Cutters

MESSRS. F. M. & H. NUTTALL, LTD., Whitefield, near Manchester.

Messrs. F. M. & H. Nuttall, Ltd., have a wide reputation as both Stonemasons and Cutters on account of the excellence of their work. Much of it may be found in our churches and ancient buildings.

Roofing Specialists

MESSRS. F. BROWN & SONS, Walkden, Lancashire.

Messrs. F. Brown & Sons specialise in the laying of Roof Coverings of various kinds, including slating, tiling and grey stone flagging. They keep large stocks of new and old grey roofing flags and can do excellent work.

Sculptors

MESSRS. EARP, HOBBS & MILLER, 63, Lower Mosley Street, Manchester.

The sculpture and carving of Messrs. Earp, Hobbs & Miller is well known and has gained for them a considerable reputation. Some of their best work may be found in ecclesiastical buildings.

Ecclesiastical Sculptors, etc.

MESSRS. ROBERTS BROTHERS, Bramley, near Rotherham, Yorkshire.

Messrs. Roberts Brothers are Ecclesiastical and Architectural Sculptors and Designers. Their work is carried out in accordance with the instructions of clients and architects in Marble, Stone, Wood, Ivory, Bronze, etc.

LIST OF FIRMS—*continued.*

Specialists in the Preservation of Ancient Buildings

MESSRS. KEEBLE, LTD., 10, Carlisle Street, London, W.1. Founded 1668.

Messrs. Keeble, Ltd., are Specialists in the preservation of ancient buildings and have had great experience in the sympathetic treatment of both old stone and woodwork. The firm also undertake to provide Sanitary, Heating and Electrical Installations, planned so as to cause the least disturbance of old structures.

Sanitary Specialists

MESSRS. WM. BAILEY & CO., 20, St. Mary's Parsonage, Manchester.

Messrs. Wm. Bailey & Co. specialise in Sanitary Work of all descriptions. Amongst the many well-known ancient buildings at which they have been engaged are the following:—Alderley Old Hall, Cheshire; Cranage Hall, Holmes Chapel; Dorfold Hall, near Northwich; Buglawton Hall, near Congleton; Morton Old Hall, near Congleton; Chetham's Hospital, Manchester; Condover Hall, near Shrewsbury; Baylis House, Slough; Bishop's Palace, Lincoln; Dobroyd Castle, Todmorden; Howcaple Court, Herefordshire; Stanton Court, Worcestershire; and Lyme Hall, Disley.

Specialists in the Reparation of Ancient Buildings

MESSRS. JOHN THOMPSON & SONS, LTD., 43, Wood Street, Peterborough.

Messrs. John Thompson & Sons, of Peterborough, are Ecclesiastical and General Builders. They have had special experience in the reparation of Cathedrals and other ancient buildings in Great Britain and on the Continent. They are also Sculptors and Carvers in Wood, Stone and Marble. The public are generally familiar with their name in connection with the important works they have carried out under leading architects and engineers, as at the Cathedrals of St. Patrick, Dublin, Winchester and Peterborough, and in connection with their present operations, which include the preservation of St. George's Chapel, Windsor, and Durham Castle. They have just completed a unique operation under the Tower of St. Nicholas Church, Gloucester, where they have been engaged in solidifying the subsoil and foundations by cementation, instead of incurring the usual risk to neighbouring buildings by underpinning.

LIST OF FIRMS—*continued.*

Flooring Specialists

MESSRS. A. QUILIGOTTI & CO., Iliad Gardens, Plymouth Grove, Manchester.

Messrs. Quiligotti & Co. specialise in jointless composition floorings, marble Terrazzo pavings and dadoes, mosaics, granolithic paving and "Manu Marble" for walls and floors.

Steeple and Tower Specialists

MESSRS. JOHN FAULKNER & SONS, LTD., Strangeways, Manchester. Established 1861.

Messrs. John Faulkner & Sons specialise in the reparation of Steeples, Towers, etc. They are also experienced in the erection of Lightning Conductors.

Heating and Ventilating Specialists

MESSRS. ELLIOTT, ELLIS & CO., Heating Engineers, of 138, Princess Street, Manchester, make a speciality of reconditioning heating systems in ancient buildings. In this capacity their services have been employed in, among other notable buildings, Stonyhurst College, Whalley; Lawton Hall, Staffs.; Swettenham Hall and Hough Hall, Cheshire; and Benarth Hall, Conway.

Specialists in Stone Preservation

MESSRS. RAINES & PORTER, LTD., Contractors for Conservation Works, 17-19, Globe Street, Borough, London, S.E.1. Established 1828.

Messrs. Raines & Porter possess a trained technical and scientific staff, under the control of a qualified technologist. They have had considerable experience of dealing with conservation works of a difficult nature and with those needing architectural sympathy. Work carried out by them may be seen at Canterbury Cathedral, Temple Church, St. Martin's-in-the-Fields, Morton Tower (Lambeth Palace), and various Colleges at both Oxford and Cambridge.

Messrs. Raines & Porter have kindly contributed the following matter relating to their methods of preserving stonework :—

"It is imperative that each structure to be dealt with "should be considered as a separate proposition, and before "commencing the conservation works it is necessary to learn "as much as possible of its history, and to submit the whole "of the building to a careful survey and examination, and

LIST OF FIRMS—*continued.*

" in this part of the work surface geology and geographical " situation must not be forgotten. Then follows the " chemical, physical and biological examination of the " various materials composing the structure, and from the " findings of all the investigations just enumerated, a plan of " campaign can be formulated.

" One object must always be kept in view, and that is : " To conserve historical buildings in a manner which allows " of a minimum disturbance of their original architectural " and artistic features both externally and internally, and to " secure and strengthen the original masonry, terra-cotta, " brickwork, plasterwork, and timberwork, and also wall " paintings, wherever a process makes it possible.

" Often a minimum of disturbance in a stone or brick " or terra-cotta elevation or section can be more satisfactorily " secured by the use of reconstructed stone, brick or terra- " cotta, but in this type of work the employment of cement- " sand compo or oxychloride cements should be avoided.

" The indiscriminate treatment of stonework and brick- " work, old and decayed, or new, with chemical solutions for " the purpose of cleaning, or with the object of securing a " preservative result should be strictly forbidden. In clean- " ing no chemical whatever must be allowed, and the " opinion formed after a number of years of carefully con- " ducted investigations is that most decaying stones do not " successfully lend themselves to a preservation treatment, " and in cases in which consolidation is necessary and can " be satisfactorily carried out, then a material which leaves " no by-products in the stone should be used. What seems " to be the most successful material in this respect, at the " moment, is Silicon Ester, a definite chemical compound (a " combination of silica and ethyl alcohol) which deposits " silica (SiO_2) only, on the particles of stone and cements " them together. The by-product alcohol rapidly evaporates " into the atmosphere. Silicon Ester has still to stand the " test of time and must not be used except by those who are " skilled in its application with the guidance of one who is " thoroughly well versed in the causes of decay.

" Careful attention is necessary in regard to the matter " of repointing, and especially in respect to ancient monu- " ments, work of this nature should not be carried out until " a portion of the stone or brickwork is submitted to " physical and chemical tests and a suitable gauging of " mortar prepared. In many cases Silicon Ester mortar is " the best to use. Careless and unscientific pointing will " often result in more rapid decay."

Part III

Section C

List of well-known Firms specially recommended on account of their reputation and the excellence of the materials, furniture, equipment or accessories of various kinds which they can supply

(This list is by no means complete, and it is hoped that those who can recommend other firms will communicate with the Editor: Mr. John Swarbrick, F.R.I.B.A., 30, St. Ann Street, Manchester.)

Manufacturers of Wood Preservative

Messrs. BURT, BOULTON & HAYWOOD, LTD., Salisbury House, London Wall, London, E.C.2.

Messrs. Burt, Boulton & Haywood are the manufacturers of the well-known "Silvertown" Wood Preservative. This fluid has been extensively used in tropical countries on timber attacked by White Ants, with the most satisfactory results. It has also been used to preserve wood from injury by Wood Wasps, Longicorn Beetles, Marine Worms, Xestobium and Dry Rot. As a protection against Death Watch Beetles and Dry Rot, it has been applied to the roof timbers of Peterborough Cathedral and on the timber spire of Chesterfield Parish Church.

Horticulturists

Messrs. CALDWELL & SONS, The Nurseries, Knutsford, Cheshire.

The nursery gardens of Messrs. Caldwell & Sons, Knutsford, and in the vicinity are widely known, on account of the quantity and variety of the plants, shrubs and trees they contain. The co-operation of Messrs. Caldwell & Sons in the selection of plants and shrubs, when laying out gardens, is of great assistance.

LIST OF FIRMS—*continued.*

Specialists in the Preservation of Ancient Buildings

MESSRS. KEEBLE LTD., 10, Carlisle Street, London, W.1.
Founded 1668.

Messrs. Keeble Ltd. are specialists in the preservation of ancient buildings and have had experience in the sympathetic treatment of both old stone and woodwork. The firm also undertake to provide Sanitary, Heating and Electrical Installations, planned so as to cause the least disturbance of old structures.

Casements and Wrought Metalwork

MESSRS. WILLIAMS, GAMON & CO. (KALEYARDS) LTD., Victoria Road, Chester.

Messrs. Williams, Gamon & Co. are Craftsmen in Metalwork and are also specialists in all kinds of leaded lights and metal casements. They also execute Memorial Tablets, etc.

Manufacturers of Wood Preservative, Roofing Felt and Paint

MESSRS. D. ANDERSON & SON, LTD., Park Road Works, Manchester.

This firm manufacture "Sidol," a well-known wood preservative, which penetrates deeply into the pores of wood without pressure and so protects sappy wood and resists decay. It also serves to protect timber against fungus, insects and vermin. The Manufacturers state that it prevents dry rot and also arrests its development in timber already affected.

Silvertown Wood Preservative

MESSRS. BURT, BOULTON & HAYWOOD, LTD., Salisbury House, London Wall, London, E.C.2.

Messrs. Burt, Boulton & Haywood, Ltd., manufacture the "Silvertown" Wood Preservative which is used extensively in all parts of the world as a preservative for both old and new timber structures and in other ways.

The architects who used it on the roof timbers of Peterborough Cathedral, on the timber spire of Chesterfield Parish Church, and on ancient buildings in Holborn, London, testify as to its efficiency. The fluid is used as a protection against White Ants, Death Watch Beetles, Marine Worms, and as a specific against dry rot.

LIST OF FIRMS—*continued.*

Grate and Chimney-piece Specialists

MESSRS. NEWTON, CHAMBERS & CO., LTD., Grosvenor Buildings, Deansgate, Manchester.

The Dog Grates and other Fireplaces of Newton, Chambers & Co., Ltd., are greatly admired, but probably none of these are more generally appreciated than those made from the models of the late Alfred Stevens. The models are in the possession of the firm and have been reproduced both in bronze and other metals.

Specialists in Architectural Metalwork of all kinds and Mechanical Engineers

MESSRS. ROBERT ADAMS, 1-2, Orchard Street, Great Smith Street, Westminster, S.W.1., and 3-5, Emerald Street, Theobald's Road, London, W.C.1. Established 1870.

The firm of Robert Adams specialise in all kinds of Fittings for Doors and Windows, Wrought or Cast; manufacture special articles, antique or modern, to patterns or drawings; and undertake renovations and repairs. They are the makers of the well-known "Victor" Building Fittings.

Specialists in Decoration, Stained Glass, and Antique Furniture

MESSRS. MORRIS & CO., ART WORKERS, LTD., 17, George Street, Hanover Square, London, W.1., and Merton Abbey, Surrey.

The firm was established in 1861, by William Morris, the Founder of the Society for the Protection of Ancient Buildings. Morris & Co. reproduce the original designs for fabrics, etc., of William Morris and the stained-glass designs of the late Sir Edward Burne-Jones and Mr. Henry Dearle.

Manufacturers of Death Watch Beetle Fluid, etc.

MESSRS. KENFORD, LTD., 58, Avenue Chambers, Southampton Row, London, W.C.1.

Messrs. Kenford, Ltd., are Manufacturing Chemists and Contractors to the Admiralty. Kenford Timber Preservative Specifics are highly recommended and widely used. Amongst the many buildings in which their Death Watch Beetle, Furniture Worm and Dry Rot Specifics have been applied are Winchester Cathedral, Canterbury Cathedral, Peterborough Cathedral, Gloucester Cathedral, Tuam Cathedral, Christ Church, Oxford, Sherborne Abbey, The Hall, Winchester School, etc.

(I have used their Death Watch Beetle Fluid at Dunham Massey Hall, Warburton Old Church, and elsewhere, with satisfactory results.—Editor.)

LIST OF FIRMS—*continued.*

Specialists in Door and Window Fittings, etc.

MESSRS. JAMES GIBBONS, LTD., St. John's Works, Wolverhampton. Established over 250 years ago.

Messrs. Gibbons specialise in the reparation of metal-work, such as Locks, Door Furniture, Hinges, etc. They are able to faithfully reproduce old patterns so as to make replacement of missing fittings or parts possible.

Manufacturers of Stone Preservatives

MESSRS. ANDERSON, GIBB & WILSON, Blackfriars Street, Edinburgh.

The products of Messrs. Anderson, Gibb & Wilson, of Edinburgh, are well known and have been widely used.

(I have used Cephasite for the purpose of hardening Red Sandstone in process of rapid decay with entirely satisfactory results.—Editor.)

Messrs. Anderson, Gibb & Wilson have kindly contributed the following note relating to the Preservation of Stone :—

"The treatment of stone with a preservative which will "arrest decay and prevent its recurrence in old buildings and "which, applied to new buildings, will protect them from "destructive elements, is now recognised as a pressing prob-"lem. Preparations with an oil or gum basis are merely "palliatives, but great progress has recently been made with "preservatives which act chemically on the stone, with most "satisfactory results. Two of these have proved their "efficiency in practical use. These are Cephasite for sand-"stone, etc., and Aquaflint for limestones, concrete, etc., "manufactured by ourselves. Our Firm also make Impene-"tra Stone Waterproofing, but this is only recommended "when the stone requires to be made absolutely waterproof. "Cephasite and Aquaflint, while resisting the action of acid, "rain and other destructive elements, do not clog the pores, "but leave the stone a 'breathing stone,' a most important "feature fully recognised by architects and builders. All "three preparations possess great penetrative power, so that "the protective action goes deep into the stone and does not "merely form a thin, easily penetrated film on the surface. "They are now specified for use by many architects and "public bodies, both in this country and the colonies."

LIST OF FIRMS—*continued.*

Church Bell Founders and Specialists

MESSRS. MEARS & STAINBANK, 32 and 34, Whitechapel Road, London, E.1.

The work of Messrs. Mears and Stainbank is confined exclusively to Church bell work, viz.: the casting and erection of new bells and the restoration of old ones. The firm was established in 1570 during the reign of Queen Elizabeth.

Part III

Section D

List of Firms specially recommended on account of the excellence and superior quality of the building materials they can supply, and, especially, on account of their suitability for use in the reparation of various kinds of ancient buildings

This list is by no means complete, and it is hoped that those who can recommend other firms will communicate with the Editor: Mr. JOHN SWARBRICK, F.R.I.B.A., 30, St. Ann Street, Manchester.)

Manufacturers of Facing Bricks and Roofing Tiles

MESSRS. THOMAS LAWRENCE & SONS, Bracknel, Berks. Established 1860.

Messrs. Thomas Lawrence & Sons are widely known as the manufacturers of "T.L.B." Specialities. These include the famous red "rubber" bricks and cutters in orange, cherry, and dark red; hand-made, sand-faced bricks in bright red and other colours; and sand-faced roofing tiles in reds and dark colours.

LIST OF FIRMS—*continued.*

Roofing Specialists

MESSRS. F. BROWN & SONS, Walkden, Lancashire.

Messrs. F. Brown & Sons can supply excellent new and old grey Roofing Flags from their large stocks. They also specialise in the laying of all kinds of Roof Coverings.

Stone Merchants

MESSRS. J. STEVENSON & SONS, Stone Merchants, Hollington, Tean, Stoke-on-Trent.

Messrs. Stevenson have an excellent reputation as merchants of the famous Hollington sandstone, which has been used in so many buildings in both ancient times and recently. Some of the best beds of this stone are worked by Messrs. Stevenson, and it is at present being used in the reparation of Broughton Hall in Staffordshire. The light-coloured stone and that with reddish streaks has been used most successfully in many ways and enables charming effects to be produced in masonry.

Index of Advertisers

Attention is also directed to the firms advertising in this publication. The advertisers are well known in connection with the particular kinds of work in which they engage, and are in all cases firms of repute. Owners and others interested should consult this list, in addition to the foregoing classified tables of Artists and Firms specially recommended.

Name of Firm.	Nature of Business.	Page
Batsford, T. B., Ltd.	Publishers	57
Bromsgrove Guild Ltd.	Artists in Metal, Stained Glass, etc.	205
Brown, F. & Son	Roofing Specialists	206
Conway & Co.	Specialists in Wall and Floor Tiling, etc.	157
Daymond, John & Son Ltd. ...	Carvers, Masons, Joiners, etc.	59
Dingleys Ltd.	Florists	137
Enion, James H. & Son	Plumbers, Roof Specialists, etc.	214
Fleetwood Granite Co. Ltd. ...	Manufacturers of Reconstructed Stone	157
Gibbons, John & Son Ltd. ...	Plasterers, Painters, etc. ...	215
Gratrix, Samuel Jun. & Bro. Ltd.	Manufacturers of Sheet Lead, Pipes, Lighting Fittings, Sanitary Goods, etc.	156
Hindshaw & Co.	Modellers and Fibrous Plaster Manufacturers	158
Jackson, G. & Sons Ltd.	Fibrous Plaster and Carton Pierre	59
Kenford Ltd.	Timber Preservative Manufacturers	203
Kerner, Greenwood & Co. Ltd. ...	'Pudlo' Brand Cement Waterproofer Manufacturers ...	61
Kirkpatrick, William, Ltd. ...	Memorials in Granite, Marble and Stone	147
Lawrence, Thomas & Sons	Facing Bricks, Roofing Tiles, etc.	213
Martyn, H. H. & Co. Ltd.	Architectural Decorations ...	62
Morris & Co. (Art Workers) Ltd.	Tapestries, Fabrics, Stained Glass, etc.	138
Newton, Chambers & Co. Ltd. ...	Chimney-pieces, Grates, Heating, etc.	127
Patteson, J. & H.	Sculptors, Carvers, etc. ...	213
Pearson, J. R. (Birmingham) Ltd.	Tablets, Name Plates, etc. ...	148
Quiligotti, A. & Co	Flooring Specialists	138
Raines & Porter Ltd.	Restoration and Preservation Work	58
Royal Exchange Assurance ...	Comprehensive Policies	61
Shepherdson, H.	Craftsman in Wood	128
Stevenson & Sons, J.	Stone Merchants	216
Stubbs, John & Sons	Specialists in Marble Work, etc.	155
Szerelmey Ltd.	Restoration, Preservation and Waterproofing	60
Thompson, John & Sons Ltd. ...	Ecclesiastical and General Builders	158
Thorpe, Wm. & Son Ltd.	Builders and Contractors ...	148
Turton, John & Sons	Sanitary and Heating Engineers	215
Walpamur Co. Ltd.	Paint Manufacturers, etc. ...	214
Watco Ltd.	Manufacturers of Wood Preservatives	205
Williams, Gamon & Co.	Casements, Leaded Lights, etc.	204

Notes on the Nature, Decay and Preservation of Stone

By Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., The Director of Works, H.M. Office of Works.

STONE PRESERVATION.

I.

Notes on Formation and Structure of Stone.

Composition of Stone.

The analysis of stones usually given in text-books and quarry owners' advertisements are, taken alone, of no value as indications of their probable resistance to decay. It is not enough to give percentages of silica, alumina, lime, magnesia—or their carbonates—potash, soda, iron oxides, etc., etc. It is also necessary to know the particular mineral forms in which they are present and how they are held together as stone.

Igneous Stones.

Geologists tell us that the igneous stones were formed in the cooling and consolidation of molten rock magmas, under conditions of more or less pressure. The most used of these is granite, a closely agglutinated crystallo-granular mixture of its essential minerals—felspar, quartz and mica, which are found in it in many forms, and always with other accessory minerals. The durability of granite depends mainly upon the kind and quality of its felspars.

Sedimentary Stones.

The decay of the igneous rocks furnishes all the materials which, transported and deposited by water, again build up into the sedimentary rocks. These, upheaved and brought into contact with the atmosphere, repeat the recurring process of disintegration and rebuilding up, and various new minerals appear such as calcite, magnesite and dolomite, of which, with those named above, the great mass of all building stones is composed.

Minerals.

The composition and physical properties of all these minerals is well known whether crystalline, concretionary, or amorphous, and the variety of their combinations in stone is endless.

The aqueous building stones are usually classified as (1) arenaceous, (2) argillaceous, or (3) calcareous. But neither these terms nor the subdivisions of the last-named into compact, oolitic, shelly, magnesian and crystalline limestones or marble, express any clean-cut natural division, each passing by imperceptible graduations into others.

Extreme Variability of Stone Structure.

These facts suggest the practically infinite variability of the chemico-physical structure of stone; not only as between stones of distinct species, but in those of the same, from the same bed, even the same block, as can be easily seen in ashlars of good Portland stone exposed for some time to the weather. This complicates all questions as to decay and its preservation.

Granular Aggregates.

Sandstone consists of an aggregate of sharp, or more or less rounded, fine, or coarse, fragments of quartz, held together by an agglutinant or matrix, which may be siliceous, argillaceous, felspathic, dolomitic, ferruginous, etc., etc. The grains may be pressed together, just in contact, or scattered in an abundant matrix.

Though most obvious in sandstone, the same granular structure holds in limestone, but with more complex conditions.

Aggregate and Agglutinant.

As in the best sandstones with a silica cement, both aggregate and binding medium in limestones are of the same material. The grains in sandstones are practically imperishable; but even the hardest calcite grains in limestones, whether crystals, ooliths or organic remains, are liable to the same atmospheric attack as the matrix. The latter varies from hard crystalline calcite to amorphous and mealy carbonate, and is, as a rule, more difficult of penetration than in sandstones.

Porosity.

The porosity of stones and its amount relative to natural absorption, is of greatest importance relative to decay and preservation.

The Macroscopic or larger Characteristics of the Problem.

It is also necessary to ascertain all that is known of the quarry features of stone structure and formation: such as its characteristic bedding, whether any tendency to fissile structure or any other liability to cleavage or to invisible cracks and vents. These last have come to light in great numbers after long exposure of the magnesian limestones at the Houses of Parliament, enormously complicating the already difficult problem of their surface decay.

II.

Causes of Stone Decay.

Generally.

The agents of erosion that attack stones in buildings are almost entirely atmospheric. Three factors relating to stone in the quarry should, however, be noted:—

(*a*) In their natural beds stones are surrounded by the enormous pressures which were an important factor in their solidification, density, and hardness. When removed from the influence of that pressure some resulting change upon the structure of the stone is probable; although its extent will depend upon the character of the stone formation.

(*b*) Even in the quarry the stone may be in an active state of alteration affecting its weathering qualities.

The seasoning of the stone and hardening of surface developed during the evaporation of the quarry water will not recur once that surface is removed. The removal of this hardened outer skin and the exposure to the atmosphere of the softer interior portions of the stone appears often to be a cause of decay.

Atmospheric Causes of Decay.

Atmospheric causes of decay are :—

(1) Mechanical.
(2) Chemical.
(3) Organic.

(1) *Mechanical Causes.*

The mechanical causes are : Wind, rain, dust, sudden variation of temperature, frost and crystallising force.

Wind.—Dry winds may sometimes have beneficial effects. On the other hand its destructive effects are shown by the removal of loosened particles, by driving rain into the pores, by compressing interstitial air in the more open porous stones, and causing disruptive stresses tending to force the grains apart. The effects of wind are intensified where its force is concentrated by passing through narrow openings, or where a centrifugal force is given it when operating in a confined space.

Rain.—Heavy rains may of course be sometimes beneficial in washing away clinging chemical or organic matter. But with its solvent and softening power, it has greater effect than wind in loosening and washing away particles of the stone. Rain which is charged with sulphur acids is far more destructive in its effects.

Dust.—Dust erosion may be comparatively negligible in this country except where fine sand, or friable earth, may be lifted and blown by the wind. But in addition to dust's frictional effect the chemical action of the innumerable particles of decaying organic matter, bacteria, etc., suspended in the air must not be left out of account. Again, apart from dust from external sources, a considerable amount of attrition takes place through particles of stone loosened by the action of wind, which lodge in cavities or joints and thus tend to rub against the solid parts of the stone, chipping away further small particles.

Sudden Changes of Temperature.—This cause acts with greater intensity in tropical regions subject to more extreme and sudden changes than in this country. Yet, even here, it cannot be considered negligible. Liability to disintegration by this means depends on homogeneity or heterogeneity of mineral structure; also upon fineness or coarseness and the presence or absence of bedding, shearing or cleavage planes. Stones like granite probably suffer most, by a gradual loosening of the grains. The summation of minute interangular expansions and contractions of the different minerals of which it is composed, repeated many times, must have evil results.

Frost.—The fact that water expands by one-tenth of its volume in the act of freezing sets up a disruptive stress that may cause the stone to flake, peel, exfoliate, spall, crack, crumble, etc., according to its structural character. It would seem to depend upon whether the ratio between the amount of *natural* absorption and total pore space leaves room for expansion to take place without causing damage. The natural absorption and capillary power of a stone to suck up and hold water, only to part with it by evaporation, or the further capillary pull to a drier medium, is of the greatest importance. Evidence is being collected which would lead to the assumption that moisture in stones induces internal stresses of considerable magnitude. The mere physical act of evaporation is also thought to be a source of decay.

Crystallising Force.—Damage similar to that caused by frost sometimes accompanies formation of sulphate of lime on limestones by the action of sulphur acid in the atmosphere. Carbonate of lime is changed under this attack into sulphate of lime with an expansion in bulk of 1 to 1·7, and magnesium carbonate to magnesium sulphate with an expansion of 1 to 4·2. Such an expansion must exercise considerable disruptive force on the surface of the stone during the process of recrystallisation.

(2) *Chemical Decay.*

The causes of chemical decay of stones lie chiefly in their reactions with certain components, or impurities, present in the atmosphere. The chief of these are:—

(i) Water, as rain, mist or vapour.
(ii) Carbon dioxide.
(iii) Sulphuric acid, and other sulphur acids and compounds.

Water.—Even pure water and country rain have a slight though quite appreciable chemical effect upon mineral substances—

(1) Direct, as *e.g.*, by inducing the hydration of iron oxides, etc.

(2) Indirect, by acting as solvent and carrier of various chemical erosives.

Carbon Dioxide.—This, though slow and gentle in action, is certainly the most universal of the chemical agents which attack stone. Normally present in the atmosphere as between three and four volumes in 10,000 in the country, and between four and five volumes in towns, in abnormal conditions it may be much more.

Its solution in water will destroy more calcium and magnesium carbonate than pure water. It also attacks potash, soda, and lime in felspar, converting them into carbonates, which are washed out.

Sulphuric Acid.—The most violent of all stone erosives are the sulphur acids and compounds present in the atmosphere from the combustion of raw coal. Coal contains one to two per cent. of sulphur which, on complete combustion, is evolved as sulphur dioxide, and, in contact with air and moisture, passes into sulphurous and sulphuric acids. These act directly on the calcium carbonate in limestones, magnesium limestones, and sandstones with a calcareous cement, converting them into sulphites and sulphates, both of which are appreciably soluble in water.

In a dry atmosphere the carbon and sulphur and other acids and compounds would be practically harmless, but by moisture they are brought into close contact with the stone, and into its substance, in a condition to react chemically therewith.

Rain, snow, fog, soot, all act as carriers of sulphur acids, bringing them into contact with the stone surface and more or less causing them to penetrate into its substance.

(3) *Organic Decay.*

A reference to this cause of decay is given by Dr. Tempest Anderson, the late President of the Yorkshire Philosophical Society. He expressed the opinion in 1910 that decay in stones might conceivably be caused by low organisms, like the moulds and fungi, for which soot, dirt and damp might give facilities for development. It is quite possible that microbes in decaying matter may intensify decay in stones, but the subject has not yet been thoroughly investigated.

Limestone Decay.

The commonest form of decay of limestone, whether of Portland, Box Ground, Hopton Wood, Purbeck marble, etc., is a general erosion, more or less marked, and even, in accordance with the quality, exposure and aspect of the stone, and leaving

fossils and shells, which are of harder and more crystalline structure, standing a little above the general surface. The harder and more perfectly crystalline structures yield more slowly, but none are completely immune from the general erosion. Even white marble in the London atmosphere is little, if at all, more immune than Portland stone.

It is observed in oolites that stones that have the most perfectly even oolitic structure, with the grains in contact, weather better than those in which the "oons" are scattered in a more shelly and amorphous matrix. Ketton is a good example of this, and Portland also, though less consistently.

The phenomena caused by the disruptive action consequent upon the conversion of the carbonates of limestones to sulphates are as follows :—

(i) Acceleration of surface erosion above mentioned, most marked at first on relatively flat projecting features such as copings, strings, cornices, etc., especially where insufficient weathering is given to throw the water off rapidly. On vertical and highly inclined surfaces erosion is slower.

(ii) Where acid-bearing water can penetrate below the surface through tiny crevices, or cracks and cleavages, or where the structure is softer and more porous, sulphate may be formed in the body of the stone and may cause flaking and exfoliation from the surface and sometimes larger spalls and fragments to become detached and fall off.

(iii) When water charged with calcium sulphate runs down the wall surface and reaches the soffits of cornices and strings, or any other part where it tends to creep and hang before dripping off, the sulphate is apt to precipitate and, with soot, to form the hard black encrustations which so often disfigure Portland stone buildings in London.

Magnesian Limestone Decay.

The attack by carbon dioxide and the sulphur acids on the magnesian limestones is analogous to that on the pure limestones, but more rapid and destructive, for the following reasons :—

(1) The dolomitic grains or rhombs in the magnesians are often held together by a calcium carbonate cement, and as the latter is more readily attacked by carbon dioxide than dolomite, the result is decay analogous to that of sandstone, the tiny rhombs often lying around like sand.

(2) The greater disruptive force developed in the conversion of magnesium carbonate to sulphate.

(3) The greater solubility of magnesium sulphate.

(4) Magnesian limestones are extremely subject to a bad inherent defect, viz., geological joints and cracks, caused by the shrinkage and movement of strata, which seem to cross them in all directions. Sealed and practically invisible, when the stone is quarried and put into the building, these vents after some years of exposure reopen; acid-bearing water penetrates along the planes of cleavage, forming sulphates sometimes deep within the substance of the stone. The result is not only increased erosion and exfoliation, but also the separation and falling off of fragments—often of considerable size—from projecting features and details.

This, much more than the mere surface decay, is the problem presented by the stonework of the Houses of Parliament.

Sandstone Decay.

Quartz sand being practically imperishable, the durability of sandstones depends upon their cementing material.

Sandstones with a calcareous cement are liable to decomposition by carbon dioxide or sulphuric acid.

Where the contact cement is of a mixed nature the chemical weathering is complicated, but the cement is left weakened and porous and more liable to damage by frost and mechanical effects of wind and rain.

The presence of mica, if disseminated through the stone, makes it more friable; if in layers the stone becomes fissile and more open to attack by any re-agent.

Stones like Mansfield or Siliceous Kentish Rag will weather like dolomitic or ordinary limestones respectively.

In sandstones of the half-formed quartzite type where the grains are fritted together, or held in contact by a highly efficient siliceous cement, the primary failure would usually be through changes of temperature effecting a partial loosening of surface grains.

Decay of Granite.

Carbon dioxide chemically reacts upon the felspar in granites, converting it slowly into soluble carbonates.

A more immediate cause of deterioration is perhaps the gradual separation and loosening of the surface crystals by the endlessly repeated expansions and contractions caused by varying temperature. These tend to open the way to further attack by the mechanical and chemical agencies of the atmosphere.

III.

Stone Preservatives.

Historical Note.

(a) A Brief History of the Enquiry.

There are no certain allusions to stone preservatives in either classical or mediæval records; it is essentially a modern problem

and did not begin to assume importance until the early part of the nineteenth century.

In 1826, Professor Fuchs proposed the use of alkaline solutions of silica for the solidification of stone under the name of soluble glass.

In 1835, Monsieur Chevalier announced in *Le Journal de Pharmacie* his discovery that the London atmosphere contained sulphur, and he attributed its presence to the excessive consumption of coal.

In 1844, a Mr. C. H. Smith soaked some specimens of Caen stone in a solution of water-glass and exposed them on a roof with untreated specimens, both being found equally corroded in 1856-7.

In 1853, Monsieur Viollet le Duc used a process of Messieurs Rocha and Delamagne on Notre Dame, and reported favourably upon it in 1856-7; it was stated to be a variety of the Kuehlmann process.

In 1856-7, Sir Gilbert Scott used Sylvester's process at Westminster Abbey, and four years later reported that its effects had entirely disappeared.

In 1857-8, Sir Gilbert Scott used, at Westminster Abbey, a process known as Ransome's, where the stone was first coated with an alkaline silicate and then with calcium chloride, precipitating an insoluble silicate in the body of the stone. It was reported three years later that the decay was in part arrested but not perfectly.

In 1859, Professor Kuehlmann used potassium silicate and claimed to have treated successfully a large number of buildings in Paris and Chartres, etc.

In 1860, Professor D. T. Ansted, F.R.S., stated that with regard to patents for stone preservatives that had been taken out within the last 20 years: "I have no less than 17 before me; 11 are simply mixtures of various substances with oils and resins; some of the others are mixtures of mineral matters and oil; none of them appear to have answered the purpose, and none of them are now employed at all."

In 1860-1, Dr. Hofmann suggested the use of silicic ether, but no record of its use is found.

The foregoing are but a few references to the use of stone preservatives that were suggested in the early part of the nineteenth century. From 1870 onwards very few investigations appear to have been made, and it was not until H.M. Office of Works commenced a systematic enquiry that the matter received the careful scientific treatment that it deserved.

At the present time there is a growing number of scientific men and chemists who are occupying themselves with the problem, but it must be admitted that at the present time a good preservative, reasonably certain of effect, both for sandstones and limestones has still to be invented.

The Ideal Preservative.

The purpose of stone preservatives is not only to strengthen the resistance of sound stone, or of that in which only incipient decay is perceptible. It must also be able to secure, and even in some measure to reconstruct, such details of the surface as are in an actual flaking or disintegrating condition. This is of great importance on ancient monuments in which there is often valuable moulded or carved detail to be saved, which is already in an advanced stage of decay. It follows from this that any preservative that requires any drastic cutting away of decaying surface down to clean stone is out of the question. Nothing beyond the removal of mouldered dust with a light hair brush, or by blowing, is permissible.

The preservative should not alter the colour of the stone, nor cause any efflorescence on the surface after applications, nor should it form a hardened outer skin which in due time will flake away, leaving exposed the softer interior portions of the stone.

Present Condition of the Problem.

As at present conceived, the problem is the successful penetration and infiltration of the pore space to a sufficient depth into the stone, with a solution, or solutions, that will deposit an insoluble precipitate, to reinforce the natural cementing material, without chemically attacking it, and render both that and the granular aggregate proof against the attack of water and acids.

The Office of Works has compiled a list of most known preservatives, many of them proprietary, with all evidences of practical trials and their results that can be collected; about two-thirds of them have inorganic bases, the remainder organic. It is for the most part a record of failures with a comparatively few doubtful successes. Some of them, besides being ineffective, darken or change the colour, while others cause flaking or other damage. Some do both.

The items of the above-mentioned Office of Works list fall broadly into eight different groups, based mainly on the substance employed. They are as follows :—

I. Water-glass Group.—Various single solution treatments with silicates of sodium or potassium, including also a few in which such solutions are followed by a second, such as chloride of lime. Both aim at the consolidation of the stone mainly by

the precipitation of insoluble silicates of lime and magnesia. The single solutions can only do this by attacking the existing agglutinant, which the double solutions seek to avoid. A hardened surface is produced, but permanent success has not been attained by either method, the common drawbacks being efflorescence, discolouration, surface cracking, and eventual flaking.

II. Fluosilicate Group.—Based upon solutions of the fluosilicates (or silico-fluorides) of magnesium, aluminium, or zinc, with the idea of strengthening the binding material by formation of insoluble silicates. Their common drawback is that this can only occur by attacking the existing agglutinant of the stone; while experiments seem to show that they fail in penetration, and as cementing material. Much controversy has been waged round the fluosilicates, and still goes on. Certain processes of this group have been given considerable trial by this Department, and, while so far there is little satisfactory result to be recorded, certain others may be said to be still under trial.

III. Pure Silica Group.—Various solutions of silica in water, or spirit, intended to precipitate insoluble and coherent silica as cementing material. There is but little certain evidence of such result being attained so far. The possibilities of the idea, however, do not yet seem to be exhausted, and are still definitely under experiment.

IV. Lime Group.—(i) Solutions of lime (calcium oxide) in water, or saccharated water, as fillers in soft or open limestones, and (ii) protective coatings, intended to act as surface binders, and acid absorbers.

In the presence of sulphur acids any protection given by these can be of but temporary nature. Even limewash, the most notable process in the group, is limited in usefulness to certain kinds of stone, in certain conditions of decay. It may be regarded as still under trial.

V. Barium Group.—Proposals having as bases various salts and compounds of barium, the most notable being baryta water —a saturated solution of barium oxide. This treatment was devised by Professor Church to counteract the mischievous calcium sulphate present in limestone as a decay product, by converting it into insoluble barium sulphate, the freed calcium hydrate gradually taking up carbon dioxide and being re-formed into calcium carbonate. Though at first it appeared to be successful, it failed to give permanent protection. Its use was often accompanied by much efflorescence and discolouration, and in some cases appeared to cause increased disintegration. Its use was therefore discontinued.

VI. Unclassed Group.—Comprising six unrelated mineral solutions not falling under either of the above groups, and seven proprietary compounds of unknown composition. Most of these have been tried without any encouraging results.

VII. Organic Group.—A large group, about a third of the whole list, of solutions of organic substances intended to act as temporary waterproofers and fillers, with, in some cases, a tendency to reinforce coherence in soft and open stones. Those known are classified mainly under the headings of their principal components, viz. : paraffin wax, beeswax, oils and fats, emulsified and saponaceous, resins, shellacs and gums. The solvents used are water, or volatile oils or spirits.

The common drawbacks are (i) a tendency to concentrate in surface layers, even where good penetration and distribution may be at first attained; (ii) a possible risk of flaking as a result of such concentration. A few of them may react chemically with the stone.

VIII. Composite Group.—A small group of solutions of more complex composition, in which both mineral and organic components are employed, in separate solutions, for the several purposes of hardening, filling, and waterproofing.

In addition to the difficulties of finding solutions that will act beneficially, without incidental damage, the chief practical difficulties of application are very great, such as :—

(1) Getting penetration to a sufficient depth, *i.e.*, at least as far as water laden with impurities penetrates naturally. Difficult in the laboratory, it is much more so in the actual conditions on buildings. It is probably attained in very few stones, if any, by the ordinary methods of application, *i.e.*, brushing or spraying. It might possibly be attained by poulticing, *i.e.*, by the application of pads of paper or cotton-wool soaked in the solution, and kept so for a week, but this method is too costly except for important details.

(2) If penetration is secured, the second practical difficulty is to get the solute left evenly distributed in the substance of the stone. Experiment shows that there is at least a very great tendency for it to be brought back to the surface in the act of drying out.

A satisfactory preservative must not form a hard impermeable surface layer, tending to exfoliation, nor cause efflorescence, nor loss of colour.

Generally speaking, it must be stated that none of the preservatives so far tried upon buildings in the charge of the Office of Works has been proved satisfactory in retarding and preventing decay.

DURHAM CASTLE : Consolidating the walls in 1926, with cement grouting, under pneumatic pressure. The "grouting pan," in which the liquid cement is churned, may be seen in the foreground. (The electric motor and pneumatic compressor are not shown in the view.)

The Consolidation of Fractured Structures by Reinforcement and Grouting

THE first to adopt this method of arresting the decay of ancient buildings was the late Sir Francis Fox, a Past President of the Institution of Civil Engineers. Papers that he read regarding his methods may be found in the "Transactions of the Royal Institute of British Architects," and a further account appeared in his book, "Sixty-three Years of Engineering," published in 1924.

In telling the story of his work at Winchester Cathedral, he wrote in the latter book, as follows :—

"I was fortunately able to call the attention of the authorities to a method of repairing old walls at a minimum of cost, and with a maximum of strength. Although many engineers were familiar with the process at that date, it had very seldom been applied, and was not known to circles outside their profession. When a wall cracks, the ordinary remedy is to send for a builder or a mason, and employ him to point up the injury, which he does with mortar and trowel, and he succeeds in producing a result satisfactory to his own pocket, and, for a time, pleasing to his employer's eye. But it should be borne in mind that this pointing goes in for only an inch in depth, and that the injury to the wall is in no degree remedied : the crack, for its entire length, remains a crack, and its tendency to widen is by no means lessened.

"In all cases the question of faulty foundations should be examined, but in many instances the upper portions of the work are so weakened and disintegrated that to attempt at the outset to rectify the defects below would bring the whole structure into ruin. To underpin a badly cracked cathedral or church, before securing the fabric itself, is often to court disaster. The Romans were probably aware of the value of 'grouting up' their work, but they had not the necessary appliance for doing it effectually; nor had we until within the last forty years, when the late Mr. James Greathead invented the grouting machine for use in the construction of deep tunnels or electric tube railways of London. And here it will be desirable to explain what is meant by the term. If a mixture of cement, sand, and water be made in proper proportion, it is called 'grout,' and when this is poured, like cream, into the cavities of a wall, the wall is 'grouted up.' This is, apparently, a very simple process, but it is nevertheless one which requires judgment and care.

"The grouting machine consists of an iron receiver or reservoir into which, by means of pumps, air can be forced under any pressure up to 100 lb. to the inch. This receiver is connected by a flexible tube to another portion of the apparatus called the 'grouting pan,' which is, in fact, a churn furnished with a handle and spindle to which are attached arms or beaters. The proper proportions of cement and water, and in certain cases sand, are then placed inside, the lid screwed down, and the contents churned up into the consistency of cream. This is now ready to be blown into the crack, the mouth of which on either side of the wall has meanwhile been clayed up to prevent the grout from escaping. The compressed air is then admitted to the grouting pan, and as soon as the necessary valve is opened the contents are discharged into the wall, the operation being commenced at the level of the ground.

"Having thus at our command an apparatus by which cement can be blown right into the heart of any structure, whereby all the loose particles of stone and the opposite sides of the crack can be agglutinated or, more properly, cemented together, we have the power of repairing injured buildings without being compelled to pull them down. The expense of grouting is very small, and does not generally amount to the one-fifteenth of even one-twentieth part of the cost of pulling down and rebuilding."

Again, in his statement regarding the advice he gave to the Dean and Chapter of Lincoln respecting the Cathedral, Sir Francis Fox wrote :—

"With the experience of the grouting machine behind us, I strongly advised the authorities to employ it. My advice was followed. The walls of the North-West Tower were soundly grouted up. Large cavities and cracks of 12 to 14 in. in width, which could not have been dealt with in any other way, were filled solid. In addition, fine ties of Delta metal (an alloy of copper and other metal which is incorrodible and has the strength of steel) were inserted into all the holes drilled in the ancient masonry, after which they were grouted up.

"High-speed jack-hammer drills were used, giving 500 blows per minute, and boring to a length of 16 ft. in five to eight minutes. With the aid of a high-pressure water-spray (to moisten the masonry and to lay all dust) very rapid progress was made at a fraction of the cost of all previous methods.

"It is no exaggeration to say that such speed, efficiency, and economy have never been approached in any other cathedral work. By the methods described, vibration was reduced to a minimum; and we avoided the nuisance of covering the whole cathedral with dust."

Others have adopted the same methods of reparation, and probably none more extensively than Sir Frank Baines, the Director of Works, who has devised a method of procedure which is both economical and essentially scientific. Quite recently the staff of H.M. Office of Works adopted these methods, under the direction of Sir Frank, at Furness Abbey and other ancient buildings in the charge of the Crown.

[NOTE.—The drilling, grouting and reinforcing of fractured structures demands a knowledge and experience that comparatively few possess. If this work is badly done, it is a danger rather than a source of strength. The operations to be successful need to be carried out systematically and in the most scientific manner. Moreover, each operation must be constantly watched by a specially trained man. Owners are strongly recommended only to allow such work to be done after they have obtained advice from one who has had special experience of the best modern methods of procedure, and who possesses the resourcefulness that is essential at times of special difficulty. Experience in shoring and underpinning is essential.—Editor.]

Underpinning

PROBABLY no piece of underpinning in connection with an ancient building has aroused more interest than that carried out at the eastern end of Winchester Cathedral, under the direction of the late Sir Thomas Jackson, Bart., R.A., and the late Sir Francis Fox, a Past President of the Institution of Civil Engineers. The method of procedure was devised by Sir Francis, and in his "Sixty-three Years of Engineering," published by Mr. John Murray, in 1924, we have his own account of this great achievement. For the benefit of those interested, one cannot do better than describe what happened, in the words of the writer. Fortunately, by kind permission of the late Sir Francis Fox and the publisher, it is possible to illustrate this account with a portrait of William A. Walker, the diver, who carried out the whole of the underpinning single-handed.

Sir Francis Fox wrote :—

"As the condition of the fabric was a matter of great urgency, I reported my visit to the Dean on July 5th, 1905, and the conclusions at which we had arrived.

"We had decided that the proper sequence of remedial measures would be :

(1) Shoring the outside of the building.

(2) Centring the arched vaulting of the interior to prevent collapse.

(3) Putting in steel tie-rods where these were absolutely necessary.

(4) Grouting with liquid cement under compressed air every portion of the walls into which grout could be forced, commencing at the base.

(5) Lastly, underpinning the walls down to the bed of gravel.

"We realised that the difficulty of this last operation would be aggravated by two limitations imposed by the nature of the structure. In consequence of the more or less general disintegration throughout the fabric, no vibration must be produced, such as would result from ordinary pile-driving, or heavy hammering; and pumping could not be permitted since it would draw away the silt from beneath the whole Cathedral. Fortunately I was accustomed to diving in the dress, otherwise I do not think I should have had the temerity to suggest this expedient. It was only after trying on my drawing board every possible device one after another which I had to abandon as useless and impracticable that I

was induced to call in the aid of a diver. The mere idea of diving under the green grass sward of the Close seemed at first absurd, but as it was the only possible means of getting at the foundations I obtained permission from the Dean and Chapter to try the experiment.

"A telegram to Messrs. Siebe & Gorman, the well-known diving firm, brought down two of their most experienced men, and by their aid the excavation, a length of 5 ft., was finished, after which I descended in the dress to examine the bottom. This proved to be hard flinty gravel, quite excellent, and, as this overlies the chalk, no better foundation could be either secured or desired.

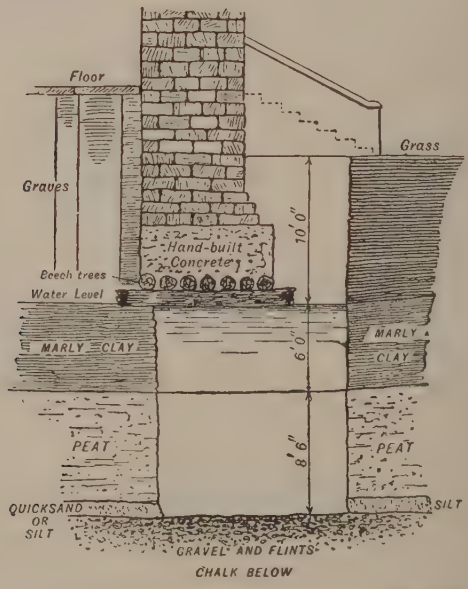
"Here I must mention that excellent diver, the late W. A. Walker, who in five years and a half did the whole work single-handed. But for his aid it would have been impossible to place this splendid fane on a reliable foundation.

"The bed of peat above the gravel had been compressed under the heavy load of the great Cathedral, probably by 3 to 4 ft., and it was essential that both the peat and the silt should be removed and replaced by cement so that when the work was at an end the fabric should stand on the flint foundation. Each time I visited the work in diving dress I brought up some of the stones as undeniable evidence that in every pit the diver had laid bare the flint.

"Only one person could be down under water at a time, and it was with a feeling of distinct loneliness that one crawled along the bottom in pitch-black darkness. But one was conscious of staring with one's eyes wide open, even if nothing could be seen; and somehow this fact, and the sensation of feeling with the hands for the sides of the excavation, made it possible not only to form a mental picture of the excavation, but to draw an accurate sketch on returning to the surface. The powerful electric light was useless owing to the thickness of the water.

"Perhaps a few words may be of interest with reference to the diving. The boots weighed 20 lb. apiece, each having a thick lead sole; the dress weighed 30 lb. the leads on chest and back were 40 lb. each, and the helmet 20 lb., making, with the remainder of the equipment, a total load to be carried of nearly 200 lb. But, notwithstanding all this, the flotation power of the water was so great that a lightly-built person going down the ladder, instead of treading on the rungs, had to place his feet beneath them, and pull himself down step by step. The pits were absolutely dark owing

to the water being thick with peat and also septic from the graves, and no artificial light was possible; consequently, the whole of the work was done, not by sight, but by feeling and with gloves. So soon as the peat was excavated the bottom was covered over with bags filled with concrete, carefully and tightly trodden in, all round; these were then slit open and another layer of bags placed on the top. These again were ripped up, and so on for four courses in all. The whole mass thus became practically a solid rock, and sealed down the flood of water from the gravel, enabling the excavation to be pumped dry. Concreting was then continued, either in bulk or in block, until a considerable height was attained, and upon this, blocks of concrete or brick in cement were carried up and tightly pinned to the underside of the old masonry constituting the original foundations of the Cathedral. When all these excavations or pits were completed, the Cathedral was practically standing on a bed of rock, instead of on compressible peat."



WINCHESTER CATHEDRAL: Section through wall of Presbytery showing beechwood under the foundations and relative positions of marly clay, peat bed, silt and gravel.

Reproduced from the *Journal* of the Royal Institute of British Architects by courtesy of the Council.

(See illustration of William A. Walker, the diver, on page 10.)

Notes on Dry Rot in Wood*

(An Appendix to the Report of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., on the Reparation of the Mercers' Hall, London.)

Cause.

"Dry rot" is caused solely by certain species of fungi that vigorously attack wood and eventually disintegrate it.

People often speak of "wet rot" as opposed to "dry rot," but are ignorant of the fact that the fungus causing the decay may be the same in both cases.

Causes of Attack.

From the point of view of their manner of attack the fungi producing dry rot can be divided into two extreme classes:—

(1) The first class of fungi has a spore which reaching the wood sends into the interior hyphæ or microscopically thin, hollow, jointed threads which grow exclusively inside the wood, always keeping at some distance from the outside.

In such cases the wood may show no external signs of decay, which is first revealed by breakage or the fructification that emerges to the outside.

(2) The second class of fungi, whose attacks are more serious and rapid, not only send hyphæ into the wood through which they spread, but also extend rapidly over its surface. These hyphæ on the surface may form large snowy cushions, thin skins or long strings, any of which can give off hyphæ that penetrate the wood.

This type of fungi can push their growths not only over wood but over brick, stone, iron and linoleum and thus can search distant woodwork.

The Worst Form of Dry Rot.

Belonging to this type is the worst form of dry rot, *Merulius lacrymans*, which can travel yards inside tubes containing bell-wires, can climb from storey to storey along the walls, and can penetrate walls, making its way through the mortar.

Distinguishing Features.

Other fungi showing the same method of attack as *Merulius* are *Polyporus vaporarius* and *Coniophora cerebella*. The three are easily distinguished by their fructifications (sporophores). That of

(*a*) *Merulius* is rust-coloured with meandering furrows and ridges.

(*b*) *Polyporus* is white with regular and definite spores.

(*c*) *Coniophora* is brownish or olive brown with a surface raised into numerous pimple-like lumps.

*Reprinted by courtesy of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A.

WESTMINSTER HALL ROOF.
WOOD BORING "DEATH WATCH" BEETLE XESTOBIUM TESSELLATUM
MAGNIFIED TEN DIAMETERS.
1. LARVA DEVELOPED FROM EGG LAID IN CREVICE OF TIMBER
2. PUPA
HEAD & JAWS
SOFT BODY ARMED WITH HORNY PEGS PRESSED AGAINST SIDES OF BORE TO GIVE DRIVING POWER.
PUPA = QUIESCENT STATE INTERMEDIATE BETWEEN LARVA & COMPLETE BEETLE. LIES NEAR END OF BORE HOLE WHICH HAS BEEN EXCAVATED BY THE LARVA ALMOST THROUGH TO THE OPEN AIR.
4. COMPLETE BEETLE
3. BEETLE EMERGES FROM CHRYSALIS & CONTINUES TO EAT THROUGH TO OUTER FACE OF TIMBER WHERE IT ENDEAVOURS TO ATTRACT A MATE BY MEANS OF A RAPID TAPPING PRODUCED BY PIVOTTING ON ITS HIND LEGS, RISING ON ITS FRONT LEGS & DROPPING ITS HEAD AGAIN UPON THE WOOD. ABOUT 8 OR 10 TAPS ARE MADE IN QUICK SUCCESSION.
VIEW OF UPPER SURFACE
POSITION WHEN HEAD IS SWUNG FORWARD & DOWN TO TAP ON WOOD.
PART SIDE PART BACK VIEW.
OUTLINES BY MISS BERTHA REID R.C.S S.KENSINGTON. ADAPTED, WH 5.XII.'17.
H.M OFFICE OF WORKS 6 KING CHARLES ST., S.W.

Westminster Hall Roof.

Photograph of a drawing illustrating the Xestobium Tessellatum.

Reproduced by courtesy of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A., The Director of Works, H.M. Office of Works.

IDENTIFICATION IMPORTANT.

The accurate identification of the various fungi is vitally important, because each requires a different method of prevention or cure.

INFLUENCE OF TEMPERATURE.

Merulius lacrymans does not grow at a temperature of 27° C. or above, and does not occur in the tropics. The hyphæ of the *Merulius lacrymans* are rapidly killed by exposure to dry or moist heat at a temperature of less than 40° C. (killed in three hours at a temperature of 38° C.) It is not certain, however, if this temperature suffices to kill any accessory spores inside the timber.

Merulius lacrymans appears to thrive at low temperatures. The fungus has been known to fructify in ice-cellars.

INFLUENCE OF AIR.

If air be absolutely excluded from wood it cannot undergo dry rot. Air is needed for respiration, and the fungus takes in oxygen and gives out carbon dioxide and water.

Merulius lacrymans can produce water weighing more than half as much as the original wood. It is this water which accounts for the drops that can be seen on the hyphæ and gives *Merulius* its name of "lacrymans," or "weeping."

Polyporus has also the faculty of producing water, but to a smaller extent.

INFLUENCE OF WATER.

All fungi causing dry rot require water from the outside world. If they are to grow in wood, this must contain moisture.

USE OF LINOLEUM.

The presence and progress of dry rot is favoured in damp, unventilated spaces (such as are provided by the use of linoleum).

ADEQUATE SEASONING.

Adequate seasoning of timber for use in buildings is imperative, as is its subsequent protection from water or damp air, from which it can readily absorb water.

The amount of water required by the different fungi differs considerably.

Coniophora cerebella demands a thoroughly damp wood (such as is found in damp cellars).

This species (if alone) can therefore be readily eradicated by drying the wood and securing good ventilation.

THE MOST DANGEROUS FUNGUS.

Merulius lacrymans, on the other hand, can, when once established, manufacture water and thus attack the driest wood, and it cannot be got rid of by drying or ventilation. *Merulius* is thus the most dangerous of all fungi to domestic woodwork, and can appear in buildings where there has been no neglect on the part of the architect or builder.

Unseasoned Painted Wood.

Unseasoned wood covered with paint often undergoes more rapid decay than bare wood. Shrinkage causes the paint to crack and gives admission to the fungi into the moist wood within.

Planed Wood more Durable.

If spores are to germinate, they require a supply of water in which to start growth. Spores and water hang on the unplaned wood more firmly than on to planed wood. The rougher surfaces of sawn pales, for instance, hold water and spores better than those of riven pales or planed wood, and hence the latter are more durable.

A Fallacy Exploded.

The statement is frequently made that the sap wood, say of red deal, is as durable as the heart wood. The sap wood so long as it is dry is in an immune condition, but if moisture reach it sap wood is much more perishable than heart wood.

Immunity.

In some cases a particular class of fungi attacks only a particular species of timber. For example, *Ceratostomella pini* (the cause of "blue sap" in pine timber) attacks only pine timber. *Ceratostomella piceæ* attacks only spruce (white deal). Other species of fungi attack only "softwoods" (coniferous species), as in the case of *Lenzites sæpiaria*. Others again only attack hardwoods.

Thus, when a house is attacked by one of these "specialists" remedial measures resolve themselves into replacing the infected wood by wood immune from attack by this particular species of fungus.

On the other hand, other species of fungi can attack many different kinds of woods. For instance, *Merulius lacrymans* attacks softwoods and hardwoods, including oak, teak and mahogany.

The Danger of using Wrack.

Previous infection of the timber of the standing tree by certain fungi facilitates the infection of wood by *Merulius*. A considerable amount of fungus-infected red deal known as "wrack" is imported into this country. It is possible that "wrack" may be successfully attacked by *Merulius* spores, and consequently its usage in houses may cause grave loss.

Inspection of Timber Yards.

Infection takes place after the tree is felled. In timber yards the method of storage is often very bad. Logs or sawn wood may be seen in direct contact with moist soil containing fungal spores and hyphæ. Again, timber may often be seen side by side with infected timber taken from buildings and stored for use, perhaps, in other buildings.

Remedial Measures.

The most practical method of keeping at bay fungi causing the decay of wood in a building is the application of antiseptic solutions.

The power of the solution varies with the species of fungus, one solution keeping at bay one species of fungus will not necessarily prove effective against another species.

The fungicidal powers of various antiseptics differ enormously.

Solutions often recommended in this country are :—

(1) Common salt and iron sulphate. (Very weak fungicidal action.)
(2) Copper sulphate, zinc sulphate and sodium fluoride. (Stronger fungicidal action.)
(3) Corrosive sublimate. (Much stronger, but very poisonous and lacking in penetrative power.)
(4) Magnesium silicofluoride. (Extremely powerful fungicidal action.)
(5) Creosote. (Commercial creosote too aromatic for use in houses.)
(6) Sodium dinitrophenol. (A derivative of creosote and extraordinarily effective but of dubious stability.)
(7) Solignum. (A derivative of creosote deserving mention. That suitable for outdoor use should be adopted.)

Practical Instructions.

The wood should be protected against access of moisture, and all wood attacked should be removed, all cutting made a little beyond where decay is evident.

The surface of the adjoining stone or brickwork and any remaining wood should be sterilised.

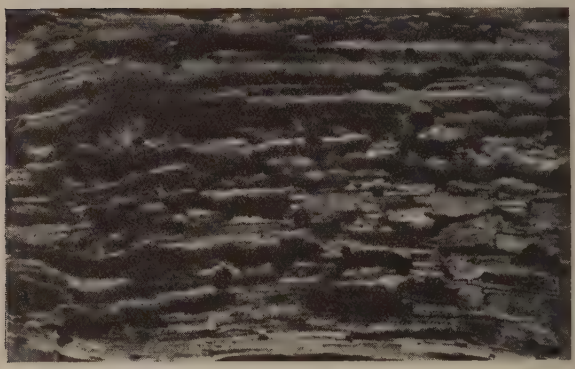
The method suggested to accomplish this is to spray with solignum (at 140°-160° Fahr.) or with formalin diluted with water. Allow to dry and spray again with solignum heated as before.

All wood used to replace that which has been removed should be immersed for some time (say 30 minutes) in a bath of solignum at 140°-160° Fahr., or brushed over and dipped at the ends into this antiseptic.

Close to the end of a timber where decay occurs one or more auger holes should be driven across the grain. The cavity should then be filled with solignum and temporarily plugged. The plugs, after a day, should be removed and the process repeated and the cavities permanently plugged.

Note.—Auger holes should not be driven into or near a knot.

As an additional precaution, the invisible face of an attacked piece of wood may be coated with solignum, but additional auger holes would be preferable, especially near the point of attack.



WOOD ATTACKED BY THE LARVÆ
OF THE DEATH WATCH BEETLE.

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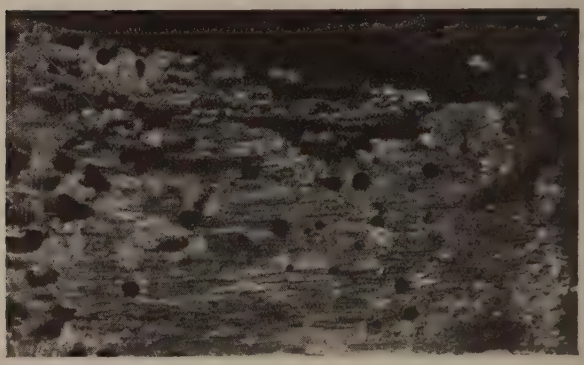

FLIGHT HOLES OF THE
DEATH WATCH BEETLE.

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The auger-hole method is specially suitable for cases where there are thick timbers which cannot be removed or which have had portions cut from them.

For visible wood, colourless solignum (suitable for outdoor use) should be asked for.

[NOTE.—The eradication of dry rot demands so much special knowledge and general experience that owners are strongly recommended in all cases to take no action, without in the first instance securing advice from one who knows exactly what steps and precautions it is most necessary to take.—Editor.]

Wood Boring Beetles*

Notes upon their Life-history and Measures adopted to Exterminate Them

(An Appendix to the Report of Sir FRANK BAINES, C.V.O., C.B.E., F.R.I.B.A., on the Reparation of the Mercers' Hall, London.)

INTRODUCTORY NOTES.

An inspection of the timbers in the roof of Westminster Hall was made in 1913, and it was found that many of them had been subjected to a special species of decay.

Immense cavities had been formed and a large percentage of the wood had been consumed, particularly at the joints of the structural members.

Further enquiry showed that the damage had been caused by an insect of which a few specimens were collected. They were submitted to the Natural History Museum, South Kensington, and were identified by Dr. C. J. Gahan as the Death Watch beetle, technically known as *Xestobium rufovillosum*, or more commonly *Xestobium tessellatum*.

The roof had been erected by Richard II during the years 1394-1400 and the timbers were of oak.

The roof is unique in its size and its beauty of design, and it was the object of His Majesty's Office of Works not only to preserve the timbers but to prevent any future attacks of the *Xestobium tessellatum*.

The object of these notes is to describe the information that has been collected concerning the life-history of the insect and of the various measures that have been taken to exterminate it.

LIFE-HISTORY OF THE XESTOBIUM TESSELLATUM.

The *Xestobium tessellatum* is similar to the butterfly in that it undergoes during the course of life a complete metamorphosis or change of form. It originates as an egg laid upon the

*Reprinted by courtesy of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A.

timber and then appears in the form of a larva or grub. It is then transformed into a pupa or chrysalis, from which, after a further lapse of time, the beetle emerges.

The eggs are white and oval in form and are laid by the female beetle in cracks or interstices of the wood, such as the joints which have warped and opened, or fissures that have occurred through seasoning knots or through stress, or on horizontal surfaces of the wood structure.

The larvæ hatch out by natural temperature in April, May or June in from three to four weeks after the eggs are laid, and usually begin to burrow at once into the wood and to consume it. They are very small, and in early life have a somewhat different appearance to that when they become older.

At maturity the soft body of the larva or grub is armed with minute horny pegs which are directed outward and backward to enable it to press upon the sides and top of the tunnel and to give effective driving power to the jaws.

The strength of the jaws appears to be a characteristic feature in all furniture beetles. They are hard and sharp, and have no difficulty in tunnelling into the densest knots in seasoned oak—timber that will sometimes turn the edge of a steel tool.

As they grow they increase in size until upon attaining maturity they are from one-third of an inch to little short of one-half of an inch in length.

When eating its way through the timber the larva bends the posterior segments of its body in the form of a curve and uses them as a lever to press itself forward and to keep its jaws fixed against the wood.

It is not known definitely how long the insect exists in the larval stage, but it is believed to be from two to three years, during which period the damage to the timber is done.

Towards the end of the larval period the insect burrows laterally to the outer surface of the timber, leaving between itself and the outer air the thinnest film of wood.

Here it rests for the duration of the chrysalis or the pupal stage—a period which is believed to last from two to three weeks.

On emergence from the chrysalis into the perfect beetle, the beetle eats its way through the thin film of wood between itself and the outer air, and the holes which are visible upon the exterior surfaces of worm-eaten timber are usually the flight holes, as they are called, and in no way represent the destruction in the timber.

It is stated that the Death Watch beetle differs in some respects from the common furniture beetles in that it does not

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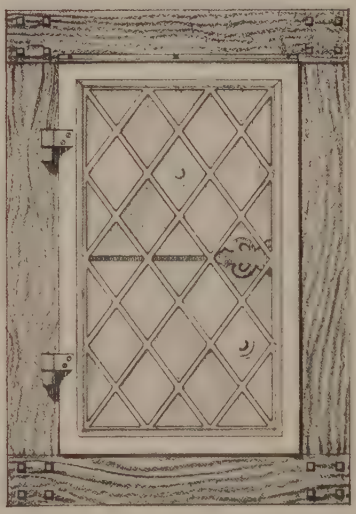

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bore its way out soon after emergence from the pupal stage, but having emerged in the autumn of one year it may remain within the pupal cells through the winter until the following spring, then making its exit from the wood for the nuptial flights. The exit holes are usually about one-eighth of an inch in diameter.

The insect in this stage is in the form of a small beetle about one-quarter of an inch to one-third of an inch in length and of a dark-brown colour.

Pairing between the male and female insects takes place after the beetles have emerged from the wood, and the special peculiarity of the beetle from which it derives the name "Death Watch" beetle is due to its call, named the sex call, which is a rhythmic tapping on the timber. The call or tapping is produced by the beetle raising itself upon its front legs and rapidly driving its head onto the timber and striking a succession of rhythmic sharp blows upon the surface with its jaws. From eight to ten definite taps constitute the call.

A few days after pairing has taken place the female beetle lays her eggs upon the timber—the beetle's life not being prolonged beyond the summer.

It should be observed that the life-history of the insect has not been determined accurately in every detail. Until the problem of Westminster Hall arose, very little scientific attention had been given to them.

A further difficulty is that the larvæ are invisible in the heart of the timber and can only be obtained by prolonged and patient search. When they are found they are likely to die if great care should not be taken.

The insect is still under investigation, and it is probable therefore that the above notes may be modified by later researches.

Habitat of the Xestobium tessellatum.

The beetles are found out-of-doors in the dead wood of such trees as oak, chestnut, willow and beech.

There is some evidence to indicate that the resin in soft woods such as fir, larch and spruce protects them from the attack of the insect, but if such a wood is of great age and has lost its resinous matter it is no longer immune from their attack.

The sap wood is always attacked before the heart wood. The fact that the attack is active may often be proved by observing collections of light-brown dust on or adjoining pieces of timber. The beetle on emerging to take its flight as a winged insect, eats its way through the shell of wood and the small dusty particles fall to the ground.

Other Types of Beetles.

There are several other types of beetles somewhat similar to the *Xestobium* :

A. The common furniture beetle, *Anobium punctatum*. These are somewhat smaller than the *Xestobium*. The beetles appear about the month of June and are from one-tenth of an inch to one-fifth of an inch in length and of reddish-brown colour.

The life-history is somewhat similar to that of the *Xestobium*, the eggs being laid by the female beetle in any small crack or crevice in timber. They are white in colour.

The larvæ hatch out from three to four weeks after the eggs are laid. They are white in colour and are covered with a number of brown spinules. They shed their skin at intervals in the course of their growth, and when the time for pupation is near they direct their burrows towards the surface but stop short before quite reaching it. The larva then changes into a chrysalis or pupa, and two to three weeks later the beetle emerges and bores its way into the outer air.

The duration of the larval stage is not definitely known, but the whole life-cycle from laying the eggs until the beetles appear is believed to take about twelve months for its completion.

B. The powder-post beetles, *Lyctus brunneus* and *Lyctus linearis*. These are about the same size as the common furniture beetles. They are dark-brown in colour.

The life-history is, on the whole, very similar to that of the common furniture beetle, but with differences in regard to time and appearance, the shape of the eggs and the structure of the larvæ. The beetles come out usually in May.

The eggs are laid in the cracks and crevices of wood and are cylindrical in form and white in colour. The larvæ hatch out in two or three weeks, and are somewhat similar to those of the *Anobium* except that the body is not covered with spinules.

The larvæ are full grown in about ten months, and then direct their burrows towards the surface, stopping short as a rule before reaching it, but they sometimes make an opening to the outside and throw out some of the powder. They then go a little way back into the burrow to undergo pupation. The pupal stage lasts a month or a little less, and the whole life-cycle is generally completed within the space of one year.

This insect readily attacks hard woods such as oak and ash, and sap wood is the part that most attracts them. The wood of coniferous trees is protected by its resinous contents.

PRESERVATIVES.

In devising a suitable compound or chemical preparation for preserving the timbers of Westminster Hall roof from future attacks of the beetle, several limiting conditions had to be laid down. It was necessary to eliminate any substance which was highly inflammable or poisonous, or which would change the characteristic and beautiful orange-brown colour of the surface of the old timbers.

After considerable experiments by Dr. Maxwell Lefroy, of the Imperial College of Science, South Kensington (experiments conducted both in the laboratory and Westminster Hall), the formula for a solution for the insecticide was settled as follows:

Tetrachlorethane	50 per cent.
Cedar-wood Oil	6 ,, ,,
Solvent Soap	2 ,, ,,
Paraffin Wax	2 ,, ,,
Trichlorethyelene	40 ,, ,,

The first of these (Tetrachlorethane) is a powerful insecticide, but it was also found to be a virulent liver poison, and it was therefore diluted with other ingredients into a form in which it was thought it would be reasonably safe to apply.

Notwithstanding the dilution with other ingredients, however, the liquid with its volatile products was still found by the Home Office to be poisonous, and the men using the liquid in the form of a fine spray had to wear gas masks of an approved pattern.

The solution, though admirable for its purpose, was not considered ideal, and as a result of further experiments a non-poisonous solution was substituted for the foregoing.

The active insecticide in the second solution was Ortho-paradichlor-benzene, which is considered to be a most effective antidote to the beetle and would kill it if it consumed any of the treated timber. To this were added soap and cedar-wood oil. As in the previous solution, the function of the two latter ingredients was in the first case to glaze over the surface of the timber and to retain the solution within the fibres of the wood, and in the second case to add an oil which was known to be very distasteful to the beetles and to prevent them from approaching the timbers to deposit their eggs.

This fluid is manufactured by Messrs. Heppels, 164, Piccadilly. The liquid when required for use was placed in a special container of acid-proof metal, which was mounted upon a framework with a wheel base, handles and legs so as to allow of its ready removal to any point of application.

LARVA OF DEATH WATCH BEETLE IN WOOD.
(Magnified 6 times.)

PUPA OF DEATH WATCH BEETLE IN WOOD.
(Magnified 5 times.)

THE DEATH WATCH BEETLE.
(Magnified 5 times)

Reproduced by courtesy of Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A.
The Director of Works, H.M. Office of Works.

The apparatus was fitted with a hand-pump which could give an air pressure up to 120 lbs. per square inch. The pressure normally used, however, was 60 lbs. per square inch.

Attached to the container was a long length of flexible tube to which were attached special nozzles that divided the liquid into a very fine spray, and this enabled it to penetrate into the cracks and shakes of the timber.

The application of the liquid by means of a spray is not, however, essential, and a brush is equally effective provided the liquid is worked into all open spaces and crevices. At Westminster Hall every part of the timber, both old and new, was given at least two thorough soakings from the solution, and the spraying of the timber was not discontinued until the surface had absorbed as much as possible and until the solution streamed down and began to drip.

Before the liquid was applied, a thorough cleansing of the timber from dust and debris was undertaken and as much as possible of the dust and excreta of the insect removed by air blasts or by a vacuum cleaner from the tunnels of the timber. The cleansing operation was found to be of primary importance, as the penetration of the solution into the fibres is seriously prejudiced by a screen of dirt or dust.

The liquid used at Westminster Hall was devised for use in special relation to the roof timbers. It acts as a paint and varnish solvent, and is therefore unsuitable for application to furniture. It also is merely a surface coating and does not penetrate into the body of the timber, as is the case when railway sleepers and telegraph poles are impregnated with creosote in a vacuum. The liquid used at Westminster Hall should therefore not be applied to timber that is in use or that would be rubbed.

Another important point is to observe that the liquid was devised with special reference to the life history of the *Xestobium tessellatum*. Advantage was taken of the known facts :—

(*a*) To have one ingredient which would be obnoxious to the beetle and prevent it from laying its eggs in or on the timber, and

(*b*) That it would have another ingredient which would tend to kill the beetle when it consumed the timber on emerging to take its nuptial flight.

It is not known how far this method of treatment could be adopted with success in the case of the furniture beetle.

Other methods of prevention will depend upon their power of destroying the larvæ in the burrows and of preventing future

attacks. Some of the more common treatments may be summarised as follows. It should be noted that there is no guarantee that they will be permanent or successful :—

(1) Treatment by heat.—It is necessary to place the wood in a chamber which can be heated to about 55° C.

(2) Fumigation by gas or vapour.—The gases used in these processes are usually very dangerous to human life and should be only adopted with special apparatus and under skilled supervision. Some gases used for the purpose are :—

i. Hydrocyanic acid gas.
ii. Carbon disulphide.
iii. Sulphur dioxide (the gas generated by burning sulphur).

(3) Treatment by liquid.—Washing with paraffin oil or turpentine at intervals, say, of one year.

(4) Benzene, terebene or carbon tetrachloride can be used.

(5) Corrosive sublimate (chloride of mercury) dissolved in methylated spirits is effective, but is extremely poisonous and must be used with great care.

(6) Messrs. Heppells have evolved another solution—a variation upon that used at Westminster Hall—which it is claimed is as effective but does not act as a paint solvent. It can therefore be applied to pieces of furniture without danger to paint or varnish. No observations can, however, be given upon its effectivity.

It must be recognised that the subject of protection of timbers against the attacks of wood-boring beetles is one that has not received prolonged scientific investigation.

In adopting any method of preservation it is necessary, therefore, to make enquiries in order to ascertain to what extent it has been proved in actual practice.

A second point is that liquids should preferably contain no water, as the latter might induce activity in spores of dry rot fungus which might be present, unless the other ingredients in the solution could be guaranteed as preventatives of dry rot.

The Department has under test certain other mixtures for preventing the attack of the *Xestobium tessellatum*. The tests are not yet completed and cannot be regarded as final and conclusive.

[NOTE.—The application of detergents for *Xestobium* and other wood-boring larvæ demands so much special experience that owners are strongly recommended in all cases to take no action, without in the first instance securing the advice of one who has at least tested some of the fluids now offered for sale and who knows exactly how to proceed in accordance with the best modern practice.—Editor.]

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